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Smudges on the glass

Tracing and locating the museum in the British Museum's digitised collections.

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Smudges on the Glass: Tracing and locating the museum in the British Museum's digitised collections.

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Doctor of Philosophy

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Abstract

This thesis examines how digitisation affects and changes the established meanings embedded in museum collections, and makes the argument that the culture and identity of an institution can affect how it experiences and executes digital transformation. In order to make this argument, the thesis focusses on the digitisation of objects, records, and networks of relationships at the British Museum. The second core argument of the thesis emerges from this examination: that data and data models can be said to have a cultural component – and that this can be found by examining digitised collections for evidence of how decisions were made during digital transformation. Taking an approach grounded in museum studies, this research accepts the position that digitisation has ontological implications for the collections being transformed, and that these changes are communicated via the web, but are also influenced through their transmission online.

In doing so, I explore the paradox which must be addressed by those carrying out the digitisation of museum material: museums are complex spaces where multiple voices, narratives and processes circulate, this requires that, at the technical and symbolic level, they be co-operative and interoperable. However, the crucial requirement for interoperability is standardisation, and that requires simplification, which risks the loss of complexity.

In addressing this paradox, I examine how the institutional history of the Museum has influenced the ways in which knowledge and identity are presented in their digitised records, catalogues and collections, and the partnerships they have developed with external actors. The research considers the digitisation of individual objects, knowledge infrastructures in the form of database design, records and catalogues, and the Museum's online network. I argue that digitisation is not a panacea for the problems of authenticity, authority and representation which many museums are currently grappling with, and can, at times, magnify the narrative silences and omissions evident in the Museum's collections. The research ends with the proposition that new models of knowledge infrastructures, such as those of boundary infrastructures, might help to resolve the paradoxical tensions facing museums undergoing digital transformation.

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From the outset, this work was done in the spirit of my grandmother, Judith Jacks - I think she would have liked it.

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General Remarks

Abbreviations

British Museum (BM)

Digital Humanities (DH)

Wayback Machine (WBM)

Collection Online (COL)

Where the term Museum is capitalised, this refers to the British Museum. When the term is used in lower case, it refers to museums in general.

URLs and Hyperlinks

Wherever relevant, URLs for webpages have been given as footnotes, and are reproduced in full, rather than as shortened links. In order to protect against the risk of linkrot or loss of website references, instead of the [Accessed: Date] format, the URLs are presented as snapshots using the Internet Archive's 'Save a Page'-service. This directs readers to the saved page, in order to preserve the reference. Thus, URLs are presented with a prefix from the Internet Archive:

A URL like <https://www.britishmuseum.org/> will be presented as

<http://web.archive.org/web/20160921093111/https://www.britishmuseum.org/>

Due to the syntax of the British Museum's URLs, this has resulted in very long URL strings.

However, I consider the permanence of the reference to be a significant enough justification for their inclusion.

Not every page can be archived using this service, since not all pages are compatible with the Internet Archive's crawler. In these cases, I have reverted to the 'Accessed: Date' method of referencing URLs.

In some cases, the reference is to a page which already exists as part of the Internet Archive.

In those cases, I have referenced the URL as it stands, without the addition of an extra archive.org prefix.

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Introduction

A Problem of Place: Universal Museums and the Web

In 2002, eighteen eminent museums¹ (ten from the USA, seven in Europe and one from Russia) released a joint statement entitled the 'Declaration on the Importance and Value of Universal Museums' (ICOM, 2004). They began by stating their objection to the illegal traffic in archaeological finds and antiquities, and then argued for the concept of universal museums which would serve all citizens of the world. It also argued that since universal museums had their origins in earlier times, when 'different sensitivities and values' prevailed, it would be necessary to recognise that the conditions of acquisition and instillation are 'not comparable with current ones'.

The statement went on to remind readers that:

'...we should not lose sight of the fact that museums too provide a valid and valuable context for objects that were long ago displaced from their original source. The universal admiration for ancient civilizations would not be so deeply established today were it not for the influence exercised by the artifacts of these cultures, widely available to an inter-national public in major museums.'

The declaration elicited critique and debate among supporters and opponents. Some saw it as a statement on the issue of ownership. The only objects explicitly named in the document were Greek statuary, and some commentators saw this as a direct response from the museums to the Greek government's call for the return of the Elgin Marbles in the lead up to the 2004 Olympic Games in Athens (Curtis, 2006; Knox, 2005). Others argued that since the borders of modern nation states are not always congruent with those of antiquity, claims of ownership needed to be considered on a case-by-case-basis (Schuster, 2004). Some regarded it as a timely reminder that political instability in countries like Iraq and Afghanistan could

¹ These museums are: Art Institute of Chicago, Cleveland Museum of Art, J. Paul Getty Museum, Los Angeles, Solomon R. Guggenheim Museum, New York, Los Angeles County Museum of Art, The Metropolitan Museum of Art New York, The Museum of Fine Arts, Boston, The Museum of Modern Art, New York, Philadelphia Museum of Art, Whitney Museum of American Art, New York, Bavarian State Museum, Munich (Alte Pinakothek, Neue Pinakothek), State Museums, Berlin, Louvre Museum, Paris, Opificio delle Pietre Dure, Florence, Prado Museum, Madrid, Rijksmuseum, Amsterdam, Thyssen-Bornemisza Museum, Madrid and State Hermitage Museum, St Petersburg.

have a devastating effect on national heritage, with the destruction and looting of archaeological sites. They thus welcomed the Declaration as a commitment to the protection of heritage by those who have the resources to do so (*Museums Journal*, Review of the Year 2003, 103:12). The language of the declaration – with its emphasis on seeing objects as art rather than as material culture – was questioned by those who interpreted the text as conveying a perspective that favoured Western visual culture over other forms of expression (Curtis, p.119).

Meanwhile, some museum professionals and commentators expressed concerns with the type of universalism articulated in the declaration. They accused the signatories of marshalling globalisation and internationalism as defences against the question of restitution and repatriation of museum objects, despite decades of postcolonial critique of museum collecting practice (Abungu, 2004, Coombes & Philipps, 2015: p.xxiv - xlii).

The British Museum was one of the signatories of the declaration and the then-Director, Neal McGregor was a vocal advocate of it and of the overall role of the BM as a museum for all citizens of the world (MacGregor & Williams, 2005). Since then, the Museum has repeatedly rebuffed claims for the repatriation of items in the collection, including the Elgin Marbles, by arguing that they have a global responsibility to keep their collections as they are (Coombes & Philipps, p.xli). At the same time, the Museum has also argued that technology now makes the physical location of their objects less relevant because ‘museum objects can now be shown in many places and many contexts, allowing growing numbers of different readings’ (MacGregor, 2005, p.38).

Some have argued that the Museum’s frequent reiteration of these positions is routinely used as a way of abdicating responsibility for any systematic reassessment of the narratives associated with certain objects and collections (St Claire, in Merriman (ed), 2006: p.94). If this is true, digitisation offers an opportunity for encyclopaedic and universal museums such as the BM to reassess how they provide access to their collections and the narratives communicated in their documentation. But digitisation has its own pitfalls, both technological and epistemological. Digitisation is not a neutral or value-free technological process – it requires that museums reconsider how they think about and present their collections in new knowledge infrastructures. It is also not invisible. The following chapters will make the argument that, in the case of the British Museum, their use of digital technology to reframe and widen access to their collections has had another effect – that of leaving traces of the Museum’s own institutional identity in the digital outputs. By reading these outputs for evidence of these traces, I argue that the institutional fingerprints that the Museum has left

are retained and transmitted via their digital identity, thus cementing a particular notion of what the Museum is in the minds of those who interact with their digital assets.

This tracing and reading of the digital smudges left by the Museum on the virtual glass of its online exhibition cases informs my overall arguments: that in cultural heritage institutions, the institutional setting in which digital transformation activity takes place matters and can influence that transformation and secondly, that data and data models have a cultural component, inherited from their institutional creators.

These arguments hinge on questions of ownership, meaning and universalism, three themes which will emerge many times in this thesis. To them, I would add a fourth consideration: that of technology. By 2002 the web, while not yet ubiquitous, was gaining popularity as a way for museums to experiment with virtual in- and outreach². While this made museum collections visible to much wider global audiences, it also challenged the accepted role of museums as sole interpreters of their collections (Trant, 1999: p.109). It also made museums more vulnerable, both to critiques of their representation of objects and source communities, and to the possibility of increased repatriation claims, since collections were now visible to a global visitor-base. This created some urgency for museums to justify their ownership of certain objects, reconsider the ways in which they are presented those objects, and to legitimise the means by which they found their way into the collections.

The declaration and the range of responses to it highlights three tensions which are centrally situated in this thesis, and to which it repeatedly returns as it seeks to read the results of the Museum's digital transformation. The first is the tension between fixity and fluidity, the second is tension between technology (and by extension, the web) as both a driver of possibility and a source of restrictions, and the third is the tension between specificity and universalism. These will be made visible in different areas of the Museum's digital outputs and will give rise to a range of literal and conceptual interpretations. These interpretations provide the basis for what I consider to be the significant questions shaping this thesis, namely: does a museum's identity affect and impact the digital transformation of the institution? And can this identity be seen in their digital outputs, which are accessed via the web? Using the British Museum as my central case study, I will argue that, in this case, the institution's culture or identity is a significant factor in its digital transformation, and that this culture informs the decisions made by the institution, which in turn have an effect on the resulting digital outputs, and which may be read through the traces and residues which mark the collections. Making these arguments required me to situate this research at the juncture of

² See Parry (2007) p.94-101 for a discussion of the chronology of the adoption of the web in museums.

museums studies, museum computing and digital humanities in order to develop the primary research framework. This broad base made it possible to include a range of other analytical approaches, including digital methods, histories of the British Museum and critical infrastructure studies in order to find evidence to support these arguments.

Background

Although recent trends point towards growing convergence between libraries, museums and archives (Robinson, 2016) museums remain an ideal subject for a study of the digital transformation because of their own complexity, and the multiple roles that they play in society (UNESCO World Summit on Information Societies, 2003). They are an essential component of the public domain – enriching society, and ‘creating multiple benefits such as an educated public, new jobs, innovation, business opportunities, and the advancement of sciences’ (Ibid: p.15). At the level of practice, they are the spaces where knowledge about the natural and man-made world is given a material form: specimens and artefacts are collected and studied, knowledge is extracted and encoded in accessible ways, and these objects and the corresponding knowledge are recorded, stored and exhibited, and used by a range of audiences, from scholars to tourists.

However, in the last thirty years, two waves of museological thought (Macdonald, 2006) have reframed the way scholars and professionals think about the work of museums. Both have grown out of the concept of the *new museology*. The ‘first wave’ argued that meaning in museums and their collections is not fixed or constant, but is situated and shifting, and depends on the perspective of the viewer and the curator. New museologists from the scholarly and professional fields saw how representation in museums extended beyond institutions and fed into structures of societal power and they understood the power of museums as places which could affirm or omit certain identities (Ibid: p.3). They called for a greater reflexivity in museums, and encouraged representational critiques of what had been seen as canonical, normative and objective.

Since then, museums have come to be seen as more than spaces where social identity is affirmed – they are also spaces for, and agents of, social identity exploration. Institutions like the Smithsonian’s Museum of the American Indian and Museum of African American History have been developed in order to foreground and explore marginalised narratives and difficult histories. In Europe, the Museum of European and Mediterranean Civilisations in Marseille, the Museum of European Cultures in Berlin and the as-yet-unopened House of European History in Brussels are presented as spaces which bolster European, rather than national identities as part of the wider European project. Meanwhile, Australian museums are

attempting to detangle the nation's migratory histories and present in two major museums devoted to migration and migrant stories. The UK is beginning to address the history of colonial expansion and slavery at the Slavery Museum in Liverpool and Empire and Commonwealth Museum in Bristol. In South Africa the Apartheid and District Six Museums highlight the new democracy's commitment to human rights, while the Museum of Memory and Human Rights in Chile and Museum of Memory in Argentina attempt to manage histories and public memory of state terror. All of these museums have specific and particular agendas which they achieve to varying degrees of success, and all should be open to critique³. But the proliferation of these institutions also attests to the appetite on the part of both museum visitors and museum funders (almost always governments) to develop museums which are spaces for exploring (and potentially reinforcing) certain social identities.

In this context, the role of technology in museums can be seen largely as supplementary inasmuch as it supports established museological processes but does not change the essential nature of those processes. The web is used as a platform for broadcasting a message and sharing knowledge, and the automation of record and collection management facilitates new connections, both internally, in a museum's own large collection of objects, and externally, with other collections in converged collections (Robinson 2016).

By contrast, Macdonald has characterised the 'second wave' of museology, which emerged in the late 1990s and early 2000s, as having a deeper and more specific theoretical and methodological sophistication. Second-wave museologists considered the question of mutability of objects and expanded their investigation of collections to address how objects become invested with different significances. Their approach considered both the materiality and the meaning of museum collections and located them within networks of relations between people and processes which influenced how collections and objects were presented and perceived (2006, p.6). Alongside these deeper investigations into how meanings were created and interrelated was an acknowledgement of the epistemological possibilities presented by technology. This acknowledgement makes it possible to use these two perspectives as a means of analysis.

Second-wave museological scholarship's acceptance of technology as a central, complimentary tool in museum work also embraces the philosophy and language of technology and networks (Cameron, 2008; Srinivasan, Boast & Becvar, 2009; Byrne, Clarke et al, 2011; Chan, 2012; Parry, 2013). The theories explored in the following chapters will show how scholars working in this realm are engaging with ideas of fluid assemblages of people and

³ See Chapters 8, 9 and 22 of Volume 4 of the *International Handbook of Museum Studies*, (2015) Wiley-Blackwell, for some of these critiques.

processes, networked digital objects, datasets, critical infrastructure and information sciences. These concepts are deployed by theorists and museum professionals as they examine repositories and databases alongside catalogues and exhibitions as infrastructures for knowledge production in museums. Drawing on examples from other museums in addition to the BM, these chapters will show how technology in museums can be used to make a distinct break with traditional modes of knowledge creation (which often resulted in the entrenchment of structural biases, even as museums tried to embrace a new museological approach) and how it can be used to re-make meaning in collections, objects and museum networks in the future.

In parallel, there have also been attempts to characterise and historicise the consecutive waves of thought which have influenced the way technology has been deployed in the pursuit of humanities research. David Berry (2011) and Todd Presner (2010) identified a first wave of early digital humanities work in the late 1990s and early 2000s which they suggest was primarily text-oriented and marked by large-scale infrastructure projects, mass digitisations, classification systems experiments and forays into mining the resulting corpora for humanities research. They argue that the second wave, which followed in the 2010s, was more generative – focussing on developing tools and environments for the production and curation of born-digital knowledge, and resulting in convergent fields and experimental publication models (Berry, p.3; Presner, p.6). Svensson & Goldberg (2015) point out that this second wave of DH scholarship has also developed an equal interest in the processes of knowledge production as well as with its products, and highlight the field's growing interest in technology both a cultural object worthy of analysis and a tool (p.1). This dual focus is useful for the purpose of this thesis because it allows for a kind of double digital literacy which permits a simultaneous reading of technology and its outputs from a humanities perspective. This heterogeneous approach allows us to sidestep the 'hack vs yack' binary which dogged early DH debates (Davidson in Svensson & Goldberg, 2015: p.131) in favour of a deeper engagement with the transformative potential of digital technology for humanities research, a scenario which Cathy Davidson defines as 'the embodiment and communication of ideas online, with the implicit goal of inviting community participation in the co-creation of knowledge' (Ibid, p.133).

In the context of the existing research on the use of digital technology in museums, much of the work has focussed on the potential of digital technology to broaden access, from the redistributive and restitutorial potential of digitisation for the communities of origin (Boast & Enot, 2013; Geismar, 2013; Geismar & Mohns, 2011; Srinivasan & Juliano, 2012;

Hennessy, 2009; Curtis, 2006) to the use of mobile and social media in museums (Badell, 2014; Weilenmann et al. 2013; Waterton, 2010; Trant, 1998). However, there has been less work done on the change in epistemology and practice – which take place within the museum itself as it undergoes a digital transformation. As Chapters 7 and 8 will show, there has been a trend towards operationalising the museological turn, which has led to the belief that technology can drive the refiguring of museological narratives. This thesis will argue that this approach poses a significant risk of over-promising on the potential of technology (or partnerships with technologists) in museums as a means to readdress structural and infrastructural imbalances. It also veers towards a certain technological determinism, which sees technology as the panacea for addressing historical bias in museums.

This thesis will show that without an equal consideration of how the museum itself might influence the results of technological change, technology can only shift the reconstruction of meaning so far. The identities and narratives projected by museums are not altered when the mode of transmission changes. Rather, they need to be reassessed internally, at the object, record and institutional levels. In the case of the British Museum, the research will show how the institution's imperial past, universal present and projected encyclopaedic future make this type of re-evaluation extremely complex. Ultimately, it will show that while the Museum may publicly declare itself as a 'museum for the whole world' the reality is that there is less significant difference between their online and offline positioning as one might imagine. Although the Museum is increasingly embracing digital normativity in the descriptions and depictions of its activities, the messages conveyed via the digital medium are still recognisable as bearing the personality, attitude and tone of the Museum. On the one hand, this is a strength – the Museum's dedication to scholarly and museological standards has carried over from its founding principles into its early forays into digital knowledge production and publishing, as interviews with key staff will show. On the other, the interviews and the study of some of the documentation which, at first glance, seems cursory demonstrates how difficult it can be for a large museum, with vast holdings and millions of object records, to maintain unified levels of quality across its digital assets. The result, however, is a possible reading of the Museum's digital outputs as a missed opportunity to rethink certain narratives and perspectives, with the result that, at times, the Museum continues to broadcast a particular version of its identity to an ever-increasing audience via the web.

In itself, this is not a new argument – Parry (2005) has argued that as museum computing becomes more theorised and develops into a fully-fledged discipline in its own right, it requires that practitioners beware of the technology trap, and that digitisation presents museums with the opportunities to 'move to some very different understandings of

the museum and its relationship with its publics' (p.345). This thesis endeavours to take the argument further, presenting evidence to show that because data and data models can have a cultural component, it is important for museum technologists and curators to base their formulations on robust understandings of their own practice and institutional history, as well as their relationships with their publics.

Methodology

This dissertation investigates the digital transformation of the British Museum and examines how this transformation manifests in the identity embedded in the museum's digital outputs. In order to conduct this examination, I consider the Museum's history and publicly-projected identity, and trace how these inherited characteristics can be read in the digital assets produced by the BM. While the Museum has created a great many digital projects over the years, I have chosen to look at four in particular: the Museum's website – www.britishmuseum.org; the COMPASS project – a now-archived project which aimed to provide users with a curated set of five thousand objects to explore; *The History of the World on 100 Objects* project, which was a partnership with between the BBC and the Museum and the Museum's digital catalogue – the Catalogue Online (COL). Tangentially, this has also involved comparing and contrasting the selected dataset with two other projects which have digital components: the Talking Objects project, an internal initiative of the Museum, and the Google Cultural Institute. The study of these projects is done through a combination of desk research, using material from the Museum's own archive, and external archival sources. I also conducted in-depth interviews with three of the key staff involved in the planning, execution and ongoing maintenance of the Museum's catalogue online. Tanya Szrajber and Julia Stribblehill are currently Museum staff in the Collection Data Management Department. Anthony Griffiths is a retired staff member, who, as Keeper of Prints and Drawings until his retirement was closely involved in the development of the digital catalogue and its eventual deployment online. Details of these sources are listed in the Appendix, as are full transcripts of the interviews. One of the interviews was conducted in conjunction with a colleague, Sebastian Felten, a post-doctoral scholar at the Max Plank Institute for the History of Science in Berlin. However, the transcriptions were all done by me, and, at the point of writing, have not been used in any other published research. I also spent some time observing the re-cataloguing of prints in the Department of Prints and Drawings by Dominic Bate, a Print Cataloguer in the Department. Transcripts of the observation are also in the Appendix.

These sources are examined through sometimes-overlapping epistemological lenses

drawing on work done by theorists in museum studies, social anthropology, cultural heritage informatics and critical infrastructure studies. I also make use of digital methods developed by scholars of web communication in order to map networks of relationships between the museum and other entities online. This approach has been necessary because I considered it the most methodologically viable response to the juncture at which this research sits. Museums such as the BM can be seen as the ultimate product of, and source for, humanities scholarship. History, archaeology, classical studies, art history and anthropology are all represented in the Museum's galleries and collections, and there is a long tradition of exchange and collaboration between scholars and the Museum. However, to date, digital humanities work has tended to focus less on social entities like museums. Meanwhile, in museum studies (outside of the field of museum computing) research has tended to focus on technology as a tool for achieving museological aims, rather than as a field for study itself. As the various theories and methods were applied to the site of study, I realised that there were, in fact, many theoretical and conceptual overlaps, which made it easier to be critically selective about the way the theory was used in the application of the digital methods. However, the potential questions which may be surfaced by juxtaposing digital methods and a theoretical framing in museum studies is an area which has been under explored, despite the fact that it has potentially significant implications for the future of museums and their digital transformation.

It is this gap that I have tried to address, by maintaining a close grasp of the various theories in each chapter, as they are applied in the digital context of the British Museum. Positioning this research within a museum studies approach, and adding digital methods where appropriate has resulted in a theory-driven application of methods in the service of a particular scholarly objective. The co-link analyses and network visualisations I have made (and which are detailed in Chapter 7) are of networks of static entities, rather than communication or social media networks like Twitter, which is the typical scenario in which these methods are used. What makes them appropriate in this context is that they are methods which have been designed to allow for a study of segments of society on the web (Bruns & Stieglitz, 2014) and can be applied to the microcosm of the Museum's online network with similar results.

In undertaking such an approach, there is a risk that the disparate parts do not coalesce into a coherent whole. In order to avoid this, I have tried to keep the research focussed on main question and to use the range of theories specifically to answer it. In this regard, it has been gratifying to discover the areas of significant convergence which are being explored by theorists such as Fiona Cameron, in her concept of the liquid museum (2014 and

in Witcomb & Message, (eds) 2015, p.345-362) and Andrea Witcomb's work on spatiality and access in digital exhibitions (2003) both of which I will refer to frequently. Wherever possible, however, I have tried to keep the investigations of what 'digital' means focussed on the specific cases at hand. This approach has been informed by the use of the following definitions:

Digitisation is defined by UNESCO as 'the creation of digital objects from physical, analogue originals by means of a scanner, camera or other electronic device'⁴. The Collections Trust extends the definition further, by describing digitisation as a process of copying physical originals into digital form, both as 2D objects, such as photographs or scans of the original, or as 3D scans or photographs of collection items⁵. There are other processes which can also result in a digital surrogate, including the re-keying or OCR of scanned text, and textual encoding to create marked-up digital versions of the original (Terras in Warwick et al (eds) 2012, p. 47). These definitions form the backbone of the activity described as 'digitisation' throughout this thesis. However, there is also a critical component to the way I consider this process, because, as I will show, there is also an interpretive dimension to digitisation. The act of creating a digital copy of a physical object is also an act of re-representing it, which gives rise to theoretical and practical challenges of how the new object is viewed, used and treated (Dahlström, in Svensson & Goldberg (eds)2015, p.468). These changes are one of the primary preoccupations of this thesis.

Digital Objects and Digital Collections: Many objects in the British Museum are reassuringly solid. They are made of stone, wood, bone, textiles, vegetable matter or metals, and they have a physical presence, although some may be old, fragile or worn. They are made out of atoms of matter which, ironically, may have hampered their digitisation in the first place by being too fragile, unwieldy or difficult to represent (Hudson, in Hughes et al, 2012, p.35). They can be found in one place only – a storage drawer, shelf or display case, or possibly out in the open, such as the marble Lion of Knidos in the Great Court. Their details may be stored in several places – handwritten into day books or ledgers, as entries in the Museum's database, accessed via a computer terminal in one of the libraries or study rooms, or as an entry in a card catalogue, but each of these instances has a presence. The digital versions of these objects are very different. They consist of a record and associated images, transformed into electronic bits, rather than physical atoms (Anderson, 1999, p.21) and these bits may be stored, as distributed packages of electronic information, in a range of different

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http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/mow/digitization_guidelines_for_web.pdf

⁵ <https://collectionstrust.org.uk/digital-isnt-different/digitisation/>

locations. When a user calls up the object, via the string of characters and commands which constitute a computational query of the database or website, these distributed packages are reconstituted via software and hardware and the viewer is able to access what they have been looking for. In essence, all digital objects are composites, rendered and re-aggregated anew every time they are queried. Clifford Lynch defines digital objects as collections of bits which 'are rendered, executed, performed and presented by sophisticated hardware and software systems' (2000 p. 36). On the one hand, this implies that digital objects, including those that will be examined and discussed in this thesis are inherently unstable, liquid or mutable (Parry, 2007, p.12). In the past, this had led to discussions and debates about the role of authenticity of the object (Bearman 1998; Anderson, 1999; Knell, 2003; Parry, 2007; Bayne, Ross & Williamson, 2009) despite their being part of a collection based in an institution whose authority may not otherwise be questioned. On the other hand, as Parry also points out, scholars, museum visitors and museum staff have begun to bridge the disconnect between computers and museums, and our ideas of digitally mediated museum visits, museum objects and museum collections have begun to be knitted together (ibid, p.14). Thus, he argues, many users and professionals now work with the understanding that a digital museum visit, digital museum object and digital museum collection may be a richer or extended version of the original, thanks to the possibilities of technological enhancement, but conceptually they are not that different from each other. For the purposes of this thesis, I use the term 'digital collection' to refer to the digital version of an analogue collection, which can be accessed via the web and viewed on a computational device, and a 'digital object' as the computational rendering of an analogue artefact, and which may contain additional information associated or embedded in it.

Another consideration is the logical disconnect between questioning the authenticity of a digital object, while not asking the same question of the original. As much of this thesis is concerned with questioning the narratives contained within objects in the British Museum, it seems sensible that an equal degree of scepticism be levelled at the original objects and their records as may be levelled at the digital surrogates. Digitisation may re-encode the biases already embedded in the analogue record into the digital version (Gibson and Tanner, 2016) and it is necessary to remain alert to this possibility.

When considering the digital objects that form the basis of a great deal of the discussion in this thesis, The Society of American Archivists' definition of a digital object as 'a unit of information that includes properties (attributes or characteristics of the object) and

may also include methods (means of performing operations on the object)⁶ is useful because it makes provision for the abstractness of a digital object, which allows it to refer to any type of information. While, for the most part, the digital objects discussed in this these are objects from museum collections, they may have the properties of text, audio or images, and may have inherited properties from their analogue parent.

Data & Metadata: Before attempting to define data, it may be useful to define metadata. While there are many different types of metadata, the term is widely defined as ‘structured data about data’ (Lassila, 1998; Gartner, 2003; Borgman, 2007; Gilliland, 2008). This definition, while widespread, is under-specific for our purposes. For example, in the discussions in Chapter 4 which focus on the Museum’s digitised catalogue records, information which may be considered as metadata as it is used to describe museum objects (such as material, find-spots or provenance) will need to be distinguished from technical metadata contained in the digitised object itself (in this case, the catalogue entry). To this end, Gilliland’s extension of the definition, in the context of discussing digital resources, is more helpful: she considers metadata as ‘the sum total of what one can say about any information object at any level of aggregation’ (2008, p.2). This aggregated approach forces a distinction to be made, which in turn will help the research to be specific about what metadata is being referred to. Rather than giving a definitive definition of data, Borgman states that it is possible for data to include ‘facts, numbers, letters or symbols that describe an object, idea, condition or situation’ (2007, p.191) but goes on to acknowledge that this is no more than a guideline definition, since data are also ‘subject to interpretation, their status as facts or evidence is determined by the people who produce, manage and use them’ (p.120-121). This definition is a useful, if overly-broad starting point, but it makes two significant assumptions. Firstly, it does not explicitly state that the data being described are digital. The second is that it does not differentiate between data and sources of data. Burrows (2011, p.181) argues that this results in a conflation of the primary source and the data contained within it, akin to ‘describing the stars and galaxies as an astronomer’s ‘data’ when, in fact, the actual physical objects are clearly distinguishable from the observations relating to them—and these observations form the data which the researcher uses and analyses’ (Ibid). In order to address these two problems, for the purposes of this thesis, and for the sake of simplicity, I consider data to be information which has been made digital, or which was born-digital, and is intended to be consumed or viewed via a machine – be it a computer, tablet, or smartphone. It is information which Anderson describes as having made the shift from ‘atoms to bits’ (1999, p.21).

⁶ <https://www2.archivists.org/glossary>

Secondly, the problem of differentiating between data source and data can be addressed if we consider the emerging work which considers collections as data. Although it is located in the library and archival sphere, Thomas Padilla's work on 'collections as data' (2017) has resonance for museum computing as well. Padilla argues that all digital objects should be reframed as data, and he defines data as 'ordered information, stored digitally, that are amenable to computation' (p.1). By doing so, materials which originated in sources as diverse as reel to reel tape, websites, manuscripts, tweets, code or software are brought into the same field of consideration, and therefore have their latent potential for computational exploration released. Thus, he goes on to argue, a tweet may be understood as part of a greater dataset which included geolocation information, date- and timestamps and links to images, websites and other Twitter users (p.2) and which extend the possible questions that can be asked of it. In this way, his definition of collections as data is in line with Parry's definition of the digital object, which is less concerned with the materiality or proximity to the original and more interested in interrogating a digital object's status as an artefact which records or defines individual epistemologies or ontologies (Parry, 2007, p.68).

The British Museum – Scale and Specificity

A study which considers questions of museological identity, digitisation and the web is best served by a site of study in which these questions are at least partially unresolved, in order to examine how these complexities are managed.. The British Museum made sense as a site because of the conflicting issues of identity it circumscribes. Its size and age have an impact on how it has digitised its collections, as did its status as one of the world's most influential museums with millions of online and in-person visitors every year⁷.

The unparalleled size of the Museum's collection is a direct result of the range and scope of the British empire, a set of circumstances which make for a fruitful enquiry into identity, ownership and universality. The collection is based on the private cabinet of one man – Hans Sloane, and not a royal collection, and it has always been a public institution, overseen by Parliament. It is situated in the capital of a Union, which (despite current political trends) continues to be made up of three culturally well-defined nations - Ireland, Scotland and Wales, each of which have their own national museums – and the fourth, a culturally less well-defined England. But an examination of a chronology of exhibitions between 1838 and 2012 (Bowring, 2012) reveals that in its choice of exhibition topics, the museum has always been

⁷ The Museum's Accounts for 2014-15 recorded 6.7 million in-person visitors and 35 million online visitors.

resolutely 'British' rather than English, even when, historically, it has been a struggle to define 'Britishness' (Colley, 2005). While the focus of this thesis is to look for traces of the Museum's identity as it manifests through their digital assets presented online, it is important to have some sense of what that identity might be, and how it was formed.

Several influential museum scholars use Benedict Anderson's notion of the 'imagined community' (1991) to explain how museums become symbols of a national identity which is itself entirely imagined. This, they argue, explains the parallel development of the nation state and the national museum in the nineteenth century and explains how museums become invested with political and social value (see Crooke, 2006; Aronsson & Elgenius, 2011; Bennett, 2014). Anderson's argument that the nation commands a 'profound emotional legitimacy' (p.4) also explains why there may be resistance in national museums to include narratives or accounts of the nation as anything but a moral good (Attwood in Coombes & Phillips, 2015, p.61, Van Hasselt in Knell et al, 2003). Fiona McLean (2007) argues that in museums, identities are transmitted through layers of representation and encoding of these artefacts by museum professionals, which, in turn are decoded by those who use the museums. Part of the argument that this thesis intends to show is that, as well as presenting an encoded cultural identity through their collection, the British Museum quite literally shows its identity via its code – the interviews with Museum staff past and present will demonstrate that the Museum sees its digital assets, their accessibility and their quality as a reflection of the institution's role and position in society, both in Britain and globally.

Since its founding, the British Museum has always shied away from articulating a demonstrably 'British' national heritage in favour of a narrative of civilization and, later, universalism. However, one of the key findings of this research (particularly Chapter 7) is that this universal identity is in fact what makes the identity of the museum characteristically British, and reinforces the value of Anderson's articulation of the imagined community. This thesis is by no means the first to make this observation. Chris Wingfield argues that the Museum's insistence on being a collection oriented towards the products of all civilisation is based on a characteristically British political history and set of practices which were all encompassing – 'placing Britain and British culture as not only the natural heir to the classical Greek and Roman traditions but also inheritor of a tradition that encompassed the whole world and all of history' (p.135). Wingfield also quotes Elias (1939) who argued that, for the British, the notion of civilization represented 'the sum of the national self-image... and... the self-assurance of a nation which has long expanded outside their borders and colonized beyond them' (1939: p.5). In other words, ever since the early years of the Museum, the idea

of a British national identity as embodied in the collections was universal in nature. And while the early collections may have omitted materials from some of the colonies and the British Isles themselves (Wingfield, p.130), Chapter 2 will show that by mid 1860s, the scope of collecting had changed and broadened, and the substantial ethnographic collections went on to be instrumental in establishing global narratives of civilization which brought together antiquities from all over the world (Caygill, 1997, p:72; Wingfield p.131). Whitehead (in Knell, p.110-117) uses the framing of cartography, influenced by Baudrillard's statement that 'the map precedes the territory' (1988: p.166) to make the argument that the British Museum, through its ethnographic collections, was in fact mapping the world within the Museum, and thereby containing and recolonizing territories, and proving the British capacity to 'gather and master beyond national boundaries' (Macdonald, 2003: p.3).

This embodiment of the national/universal tension made the Museum a compelling case study, and provided an opportunity to build on previous research which examined how digitisation and online publication of cultural heritage material was used as a way of publicly asserting certain national identity constructions in museum, library and archival collections in Wales and South Africa. The Museum presented the possibility for examining an institution which self-defined universal identity, and an embodiment of the pluralities and problematics this entails. The Museum's re-engineering of the lack of well-defined national identity in Britain (Brockliss & Eastwood, 1997), turning it to their advantage as a way of bolstering the universal identity was evident in the *History of the World in 100 Objects* project, which presented the Museum's ability to 'gather the world in one building...' in the spirit of 'a universality of ambition that embraced not just its collection but also its intended public'⁸. While the collection is impressive in size, scope and range of sources, it has been criticised by museum theorists like Annie Coombes and Ruth Philipps (2015) because it presents a 'benign' and 'unthreatening' version of cultural diversity, which has been sanitised of the tensions and struggles which lie behind many objects and interactions (Coombes & Philipps, p.xxxvi). Chapter 6 will show how many of the objects which were part of the project are not integrated into the overall narratives on the Museum's site, despite the Museum's frequent public pronouncements that one of its aims is to help different cultures improve their understandings of one another (British Museum: Towards 2020). This is revealing, since it exemplifies how the Museum presents globalisation and global identity – as a melting pot of cultural exchange rather than a series of cultural conflicts. This reluctance to display the

⁸ This quote is taken from an audio recording of a speech given by Neal McGregor in January 2009 entitled '250 Years On: What Does it Mean to be a World Museum?' and accessed on the Museum's site at: <https://web.archive.org/web/20160926162556/http://www.britishmuseum.org/whats_on/events_calendar/recorded_events/250_lecture.aspx>.

messy, complicated or difficult aspects of history (and the role of the British nation and Empire in these problematic, pluralistic experiences) make the BM a potentially fruitful site for a study which aims to assess the effectiveness of deploying of the digital manifestations of a universal identity in transformative or empowering ways (Griffiths interview, 52.43).

Another aspect which drew me to the Museum is its status as a public institution, and the way it characterises of that public. On the one hand, as an institution, overseen by Parliament and Trustees, the BM's documentation and records are readily available from a variety of sources, which made the archival part of this research a much simpler process. But another important aspect of the research involved examining how the Museum defines and identifies its public and how these definitions have shifted over time. Chapter 3 delves into these visions of the Museum's public, and shows how access to the Museum and museum culture generally was not always seen as a public good, and the Museum staff and Trustees sought to restrict and mediate the degrees of access permitted. This is no longer the case, but Chapter 3 draws a causal thread between this period of limited access imposed in a top-down manner and the development of what Walsh calls the 'Unassailable Voice' (1997: p.77) in museums. This voice, although impersonal and disembodied, pervades all aspects of a museum's communications with the public, from exhibition labels to web sites and video installations. In the case of the BM, this voice has a particular tone and timbre which, at times, may seem at odds with their stated universalist objectives. This tension, and how it can be seen in the documentation, digital collections and institutional history of the Museum are all aspects which will be examined in the thesis. These examinations all contribute to the overall argument that, despite the potential offered by digital technology for significant transformation of a museum's identity and approach to their collections and documentation, the weight of the BM's own history and its institutional identity are inescapable, and can be seen to run throughout the Museum's digital outputs.

Agenda

I have arranged the results of this research into seven main chapters. Since there are two aspects to this thesis – the balancing of the ongoing tensions described in the first part of this Introduction, and the main research question - each chapter addresses both aspects. Because the thesis is primarily interested in tracing how museological identity is simultaneously shaped by, and shapes digitisation activity, and is subsequently transmitted online, the chapter subjects correspond to each element of that question. At the same time however, the tensions run through all seven. So do the examinations of the most visible digital products of the Museum – namely the COMPASS project, the History of the World in 100 Objects project, the Talking Objects initiative and the COL. I will begin this chapter breakdown by highlighting how the tensions are explored throughout the thesis, and how they act as the conceptual anchors from which I am able to explore the concurrent questions of identity and museological theory through the lens of museum computing and the BMs digital outputs.

Fluidity vs Fixity

The tension between fluidity and fixity informs the arguments in almost every chapter. In Chapter 2, it forms the basis of the examination of how subjective memory is crystallised and embedded in museums as subjective meaning. It is also the key concept in the notion of the 'liquid museum' presented in the work of Fiona Cameron, who argues that museums will need to embrace liquid modernity and flexibility if they are to be relevant and useful tools for societies facing the challenges of a networked future. Chapter 5 examines the ways in which this fixedness is challenged by digital technology, which enables digital objects to hold multiple meanings at once, Chapter 6 is concerned specifically with museum records, the ways in which meaning is constructed in them, and the ways in which digitisation, as a technological process, is able to inscribe the record with multiple meanings, encouraging fluidity of interpretation and transforming it into a contact zone which encourages multivocal narratives. Chapter 7 examines the British Museum's network, and shows how even in this assemblage of online entities, there are two types of identities being established and transmitted. The deepest engagement takes place in the discussion of the boundary object in Chapter 8, which investigates the possibilities for museums to act as boundary objects or boundary infrastructures, following the writing of Susan Leigh Star (1999, 2010; Star & Griesemer, 1989 and Star and Ruhleder, 1996). Boundary objects and infrastructures provide frameworks for multiple meanings to exist side by side, and provide room for heterogeneous meaning within conceptual spaces while remaining robust enough to maintain a common

identity across these communities or sites. Observing how the Museum manages the tension between these two approaches to meaning informs the critique of the British Museum's digitisation work throughout the thesis, and informs the final conclusion that the Museum's adherence to a singular, unassailable truth in their approach to their collections ultimately undermines both their digitisation work and their universal identity.

Technological potential vs technological limits

In 1939, Samuel Hoare, then Home Secretary, gave a speech to the House of Commons concerning the preparations to establish the Ministry of Information. Describing the Ministry as a machine for sending messages he reminded the House that 'However good our machine may be, the real thing that matters is the record that we have to tell.'⁹

Throughout the thesis I seek to show how the machine-potential offered by digital technology in museums needs to be balanced with an awareness of two risks: firstly, that of the digital imperative, and secondly, the fact that technology cannot rewrite the content of a record. One of the core arguments of the thesis, is that digitisation can be a cumulative and transformative process which adds meaning to objects and their institutions by building up layers of information (Dahlström, Hansson & Kjellman: 2012). However, discussions in Chapters 2 and 5 show that this cumulative process is also a critical one, characterised by manual and intellectual choices about what to select, leave out or interpret, which cannot (yet) be made by machines (Ibid: p.462). To assume that digitisation alone is the mechanism with which to overcome issues of representation, questions of ownership or knowledge infrastructures which privilege some narratives over others is to expect too much of technology, however sophisticated it may be.

In Chapters 3 and 4 I show how the British Museum's desire to maintain an encyclopaedic approach resulted in digitisation planning and a partnership with the Google Cultural Institute which actually resulted in information being lost to online audiences, and in a website infrastructure which limits the freedom of the user to build independent narratives and routes through the collection. Chapter 5 shows how the Museum's digitisation and presentation of objects from the collection of Benin Bronzes actively silences some of the narrative histories of the objects and their provenance. These silences were already present in the analogue version of the records, and this replication of omissions reveals how technology alone is not enough to redress the imbalance. Chapter 6 focuses on how collection

⁹ This quote has been used frequently in the descriptions of MOIOnline (www.moidigital.ac.uk) a DH project which examines communication in the Ministry of Information between 1939-45. The entire speech can be found in the Hansard records: HC Deb 28 July 1939 vol 350 cc1831-52.

documentation and structured metadata can be used to build infrastructures which create order out of the informational chaos of a collection or multiple collections. It also examines how digital methods and tools can be used to maintain this order, while at the same time incorporating new narratives, but only if there is sufficiently robust data and infrastructure developed to do so (Blanke, Kristel & Romary, 2015). It also examines how digital technology can be used to manage the issue of object repatriation. Chapter 7 reveals how networked technology and online relations between entities can risk reinforcing the structural power dynamics already present in the material world, through an analysis of the Museum's online networks of connections. Chapter 8 considers the Museum's COMPASS project, and argues that it suffered from a tendency towards the digital imperative, which was the repeated when the Museum transferred material from COMPASS into the partnership with the Google Cultural Institute. Overall, by recognising and tracing these technological tensions, I have been able to show that digital transformation can be ambiguous, and that the knowledge infrastructures and practices which have been developed by the Museum continue to bear the traces of attitudes and perspectives of its earlier incarnations. These realisations point towards the need for more work which investigates how the 'computational turn' described by David Berry (2011) might be used as tool for investigating what takes place in museums when their infrastructures challenge the attempts at sense-making in new ways.

Specificity vs Universalism

The third tension which surfaces throughout this thesis is that of specificity versus universalism. In terms of the broader scope of the thesis, I see it arising out of the current scenario in which national museums - institutions which have historically been instrumentalised as definitive sources of a singular national memory (Knell, 2011) - begin to move into the digital realm, a space characterised by informational and relational flow, flux and constantly shifting meaning.

In terms of the examination of the British Museum, this tension is evident in terms of its universal identity and the historical narrative of how this has developed. It is also significant as part of an examination of the Museum's publics, and who it sees itself representing and serving. It also manifests in the question of ownership - of both objects and of narratives in the Museum, and requires us to examine whose stories are told, and by whom, and question whether digital technology can be used as a means to refocus these narratives.

While the BM has always proclaimed to be a universal museum, in the service of all mankind, this research presents the argument that the way the Museum has chosen to digitise their collections and catalogues, their presentation of objects and their corresponding

biographies and the networks of relationships within which the Museum is embedded reveal an identity which is in fact rather narrowly and specifically British, and closely aligned to many of the structures of the British state.

This tension is first evidenced in the discussions in Chapter 3 which chart how the Museum's identity developed in the first decades after it was founded, and how this identity was closely tied to the way the Museum defined (and in some cases, declined to define) their audience. Anne Goldgar's (1990) recounting and analysis of the Museum's role in the virtual representation of culture in the eighteenth century shows how the BM's founders distinguished between their audiences. While, from the outset, the Museum proclaimed to be an institution for 'the use of learned and studious men, both natives and foreigners' (Trustees of the British Museum, 1759), the documentation and practices which regulated access to the Museum reveal a different story. Both Goldgar and Cash (2002) trace the invisible distinctions based on class and social status which influenced who was permitted to access the Museum and who was denied. Over the years the official regulations fell away, and anyone who was able to come to Bloomsbury was able to visit. However, as Chapter 4 will demonstrate, the way the Museum recorded narratives in the object records, and presented their collections in exhibitions continued to exclude some narratives over others. These acts of omission and silencing reveals a distinct, if under-defined, imagined audience, even while the Museum publicly characterised its audience as being universal. This simultaneous representation and undermining of the concept of the universal audience will be traced through the Museum's digitised catalogues and subsequent digital engagements in Chapters 5, 6 and 7.

Parallel to the discussions and attempts to reconcile the three tensions arising out of the question of digitisation at the British Museum, this thesis also asks a more general, central question: How do museums manage identity (a fixed, specific notion) during digital transformation and on the web (an apparently fluid and global space)? In the effort to answer this question, I have arranged the research into seven chapters which make up the analytical narrative, and each of which deals with specific aspects of that question.

Chapter 2 sets the scene, theoretically speaking, by building a framework which shows how museums have been co-opted into the nation-building project. In this, I use the work of historians of memory and commemoration such as Pierre Nora and show how his analysis dovetails with the work of museum theorists, in particular Tony Bennet and Sharon MacDonald. Central to the chapter is Bennet's formulation of the exhibitionary complex, in which he explains how museums' representations of the artefacts of others were presented to the public in order to create a clear distinction between an imagined 'us' and 'them'. This, he argues, is used to show how the modern liberal state instrumentalised museums to inscribe

culture and broadcast power to emergent publics. This argument forms the basis of the rest of the chapter's investigations into how power manifests in different ways in museums, particularly in national museums, and how this has been challenged by contemporary museum theorists, who have called for a recalibrating of the unassailable museological voice. Digital technology has been presented as one possible mechanism for this recalibration, and the chapter explores how this might be achieved by 'unpacking' digitised collections and objects (Gosden & Knowles, 2011; Geismar & Mohns, 2011, Byrne et al, 2011) in order to reveal and amplify the narratives embedded in them, which may have otherwise remained untold. This is a first step towards building an answer to the research question by positing theoretical basis for the thesis, but it is, at this point, rather generalised. In order to test the hypothesis, it is necessary to zoom in, and look closely at one museum, and its identity and digital activity, in order to make the case.

This pinpointing takes place in Chapter 3, which considers the British Museum as a locus of power and governmentality (Bennett, 1995). I examine how the Museum came to be invested with this social power by tracing the British Museum and the development of its institutional identity, through its foundational values, the way it defined its audience and, more importantly, its relation to Imperial state in England. This narrative is significant not only because it gives us a more developed image of the museum, but also because it is a mechanism of showing a historical continuity between the Museum in the past and in the present. This continuity is marked by the Museum's ongoing engagement with the themes of universal identity, Enlightenment ideals and the association of heritage with civilization. By looking at the Museum's past, through a historical lens, including historical records, museum documentation and the work of several historians of empire and culture, the chapter shows that the Museum played a significant role in the development of the notion of Britishness during the late eighteenth and early nineteenth centuries. It also explains how the Museum functioned as a storehouse of cultural capital, which led to repeated accusations of cultural imperialism and claims for restitution, resulting in the Museum's ongoing reiteration of its status as a universal institution. While this chapter uses the BM's past in order to interrogate the present identity, it is the next chapter which uses these aspects to explore the Museum's digital, networked future.

Chapter 4 remains focussed on the museum, and examines how the digitisation of the Museum's collection and records was planned and has been executed since the 1980s. Using a combination of archival material from the Museum and in-depth interviews with Museum staff, it traces how what was originally an internal project, designed to help manage the collections in several departments, became the basis of the bulk of the Museum's online

engagement. It also maps the digitisation activity to the Museum's founding principles of access and universality and reveals moments of dissonance between the way the digitisation has been implemented, and the Museum's public pronouncements of digital aspiration. The objective of this chapter is partly to provide a critique of where I see the Museum falling into the technology trap, and partly to show the ambiguity inherent in museum collection digitisation. While it can widen access, digitisation can also amplify flaws which may have been less visible in the past. The chapter ultimately argues that the Museum's focus on volume (a large amount of available digital content) over the informational value of that content, allows users to interact with materials on a superficial level only. The chapter also addresses the Museum's partnership with the Google Cultural Institute and raises questions issues of access and preservation arising from this. These issues can be read as a symptom of the wider issue of platform capitalism (Morozov, 2015) and a general siloing of knowledge on the web (and in the Museum) as well as another example of the tension between universality and specificity. The chapter ends by asking how these kinds of omissions might be addressed through considered digitisation, which makes use of the plasticity and flexibility of digital objects.

Chapter 5 seeks to answer that question by shifting the focus from the British Museum to an examination of the changes which take place when objects are digitised, and how this can be used in museums to refocus and reconsider what a museum object might look like. It argues that digitisation is not a neutral process, but rather one which leaves traces on objects, which build up layers of meaning. This requires sensitive planning and consideration when digitisation is being carried out, but also presents an opportunity for museums. Rather than avoiding these traces, I argue, they can be used by museum professionals and source communities to develop digital knowledge frameworks which reconsider and (re)present difficult heritage narratives. I show how the Museum's interpretations of significance as it relates to some of the objects in the collection have not changed significantly over the last century, despite the technological possibilities of creating and providing links and connections to other sources of knowledge about the objects. Specifically, the chapter examines objects from the Benin collections and their associated digitised records. I track how the Museum's authoritative voice, which was present in the paper records and ledgers, obscured the violent origins of the collection and reinforced the then-prevalent view that the Bronzes were too fine to have been made by Africans, has been re-injected into the digital collection. This serves to amplify and spread the representational imbalance, despite the despite the technological potential of digital objects to incorporate multiple narratives. This raises the question of

potential in relation to digital museum collections in general, and what might be possible in digital museums that cannot be done in their material progenitors.

Chapter 6 seeks to address this previous chapter's question by introducing the concept of the digital contact zone, an extension of the contact zone suggested by Pratt, in which 'cultures meet, clash, and grapple with each other, often in the contexts of hugely asymmetrical relations of power, such as colonialism, slavery or their aftermaths as they are lived out in many parts of the world today' (Pratt, 1991: p31). This chapter focusses on digital identity in collection documentation as an example of museum material or assets which might be deployed online to broaden the contact zone. Museum records impose clearly-defined and inscribed cultural categorisations as a means of creating order out of the chaos of collections. But inherent in the infrastructure are a set of values and assumptions about knowledge which shape the way the collection will be ordered and structured. This chapter examines the BM's COMPASS, Talking Objects and *History of the World in 100 Objects* projects, all three of which undertook, to different degrees, an extension of the Museum's physical and digital contact zone. The chapter will also show how this extended zone is rendered largely inaccessible to online users due to issues of the Museum's knowledge infrastructure. The chapter also asks what the composition of the contact zone might be, in terms of other entities.

Chapter 7 maintains the focus on the Museum, but zooms out to look at the British Museum's networks on the web as a means of trying to answer the question of how, in shifting spaces online, the Museum navigates the assumed fixities of national and institutional identity. It shows that despite the absence of familiar markers such as flags, language or topographical location, there are digital mechanisms by which it is possible to demarcate a national web space online. This results in constellations of actors into digital social hierarchies who, through mutual linking, are able to consecrate and bolster each other's status in a web of networks. In this chapter, I question how the BM has leveraged this network, and show that the ongoing negotiations between fixity and fluidity and universality and specificity have influenced the way it uses the web to project a national identity. In order to investigate this, I make use of digital methods developed by web historians and archivists which reveal the Museum's network online.

Overall, the chapter demonstrates that the webspace within which the Museum has located itself is overwhelmingly British, and the entities it is connected to can, for the most part, be characterised as being part of the establishment of British society. These two factors help to develop the argument that the national identity created and transmitted by the BM is actually to be found within the network itself. Seen in conjunction with earlier chapters which highlighted the close relationships between the Museum and the organs of the British state, it

becomes possible to argue that national identity at the British Museum is defined, represented and bounded by the Museum's location in a network, in contrast to the language of universality it uses to describe itself.

While Chapters 5, 6 and 7 examine different aspects of the Museum's digital knowledge infrastructures (objects, records and external networks) Chapter 8 considers the museum as an infrastructure in its own right. It posits the possibility of reframing the museum as a network, made up of connected assemblages of objects, processes and people, and of which have been standardised in particular ways. This networked orientation raises the possibility of the museum as a boundary object or infrastructure – a conceptual framing which creates a scaffold for heterogeneity in the scientific work of a museum. This would help to resolve the fixity/fluidity dichotomy by allowing for both processes to exist as compliments to each other. Returning to Chapter 2's discussion of Fiona Cameron's work on future models for museums, this chapter invites an imagining of the museum as being both liquid and networked, as a boundary object and a boundary infrastructure. This argument is made using digital methods, but also a detailed theoretical argument based on critical infrastructure studies. The chapter also investigates the issue of the digital imperative and positions it as a risk to the liquid, networked museum and moves to undertake a critique of one of the BM's digitisation projects in the light of this risk.

In the Conclusion I will revisit the question of what happens to the identity portrayed by a museum as it undergoes a digital transformation, and in particular, how the Museum's digital assets can be read for evidence and traces of these identities.

The British Museum and the digitisation work it has done are the focus of this thesis, and as a result, there is some critique of how the Museum has gone about their digitisation, the ways they present knowledge, and the types of knowledge presented. This is not intended as an attack on the Museum. Current and retired staff were generous with their time and knowledge, and graciously allowed me to ask questions, observe them at their work and helped me locate information from their archives. Rather, this these aims to show how a museum like the BM, with such global visibility, and significant status as well as the size and scope of the collections, makes an effective illustration of the complexity of undertaking digitisation work, and of managing digital assets over several platforms in the long term. By using the BM as the primary site of study, it is my intention to show that museum digitisation requires an approach that demands technical expertise related to aspects of repository architecture, metadata management, digitisation best practice, digital preservation and user experience design. At the same time, it also requires appropriate consideration to be given to

the institution's history, purpose and internal structures and external partnerships. This is no small feat, and this study aims to show how the Museum has navigated these difficulties, with a range of results.

Chapter 2 – Theoretical Framing

2.1 Introduction

This chapter outlines the theoretical basis from which to consider the questions posed in this research – namely what happens when national museums - institutions which have historically been instrumentalised as definitive sources of national memory (Knell, 2011)- begin to move into the digital realm, a space of flow, flux and constantly shifting meaning.

Working within the digital humanities, where scholars were, for several years, preoccupied by debates which were concerned with the distinction between theory and methods, (see Svensson, 2009; and Kirschenbaum, Svensson and Druker, all in Gold, 2012), I have been acutely aware of the range of disciplinary influences I have drawn on for this work, and the degree to which they complement each other. Rather than perpetuate these debates, I hope that this research will make a contribution from the position of museum studies, with a digital approach, rather than trying to define and shape a digital humanities project.

Scholars in museum theory, social anthropology and cultural studies have been questioning what computers and the web mean for museums and collections from different perspectives (Harrison et al, 2013). Some are considering the implications for infrastructures of knowledge (Edwards, Jackson et al, 2013). Others, meanwhile, have embraced the notions of uncertainty and shifting meaning (Robinson, 2014; Macdonald & Silverstone, 2006) which are characteristic of the digital space, where objects and relationships between them are understood to be plastic, flexible and mutable (Manovich, 2001; Parry, 2007, Cameron & Robinson 2007). Rather than seeing this instability as problematic, this research argues that in museums, this state of flux and shift offers great potential for museums. I suggest that this potential falls into three broad categories: Firstly, this potential is narrative – digitization makes it possible to embed information of different types and from different sources into digital objects, enabling the retelling of histories from a variety of perspectives. Secondly, the potential is structural – digitization of records provides an opportunity to revisit and redress the silences and omissions in museum documentation which are features of structural inequalities often found in older museums (Attwood in Coombes & Philipps, 2015). Thirdly, the potential is technical – the use of relational databases in museums makes it possible for new connections to be made within large collections, and allows scholars to formulate new approaches towards knowledge production by considering diverse digital materials and types. How the British Museum exploits this potential will be a benchmark for evaluating the

Museum's digitization work to date, and the evaluation will also be compared and contrasted with the Museum's projections of their digital incarnation in the future. There is value in theorising the British Museum on its own terms – in order to understand how the Museum defines itself, but I have chosen to make that topic the focus of Chapters 3 and 4, which will serve as an in-depth investigation of the Museum's institutional history and how it drove the development of their digital database.

This chapter begins by outlining the foundational arguments of the thesis – that digitisation of cultural heritage material is not a value-free or neutral technological process. Technical and practical considerations, as well as socio-cultural influences all combine to invest digitised collections with meaning and significance which is then transmitted to those who engage with these digital collections, either in museums or online. The source of these embedded meanings is the focus of the second section, which explores why societies are driven to memorialise their history, and how museums have become the sites of this memorialisation. These two sections create a backdrop against which to build a general explanation for the emergence of the modern national museum. This emergence is particularly significant in the light of the recent heritage boom which has seen increasing numbers of museums of national identity being created, despite the increasingly globalized nature of Western society (Aronsson & Elgenius, 2014: p.2) and the global nature of the internet.

The third section introduces the field of museum studies, and focuses in particular on the relational shift in museum studies, which has taken place in roughly the last decade (Witcomb and Message, 2015). This shift can be characterized as a professional and theoretical approach to museum which considers museum theorising and practice as a continual set of meaning-making processes, rather than the establishment of a series of fixed and objective truths. Over the course of Chapters 5, 6 and 7, this conceptual framing will be integrated with network theory and the emerging scholarship on digital objects with fieldwork and data gathered about the Museum. This theoretical and empirical evidence will address the instability and plasticity of both the institution and the digital object, and suggests digitized museum objects as a means to reflect and manage the tensions being balanced in contemporary heritage and ethnographic museums.

The fourth section of this chapter builds on the second inasmuch as it is concerned with theorizing objects, both digital and analogue, and considers their role as knowledge repositories. The defining characteristics of digital objects, as considered by Manovich (2001) and Kallinikos (2010) will be discussed and these will be used to define the salient features an object and similarities between digital and material objects, and what can be done with them.

I will consider how objects can stand as representations of identity and investigate how these representations are constructed via the significant properties of the digital and ethnographic object. The work then shifts into the online space, and using the work of Fiona Cameron (2003; 2008) who describes how digital museum objects are situated within networks and flows of information, I will build a framing which examines how the significant properties of an object are encoded, embedded and transferred as the object travels from acquisition to digitization and how it migrates online and what the consequences of this digital deployment might be.

The fifth section continues the exploration of the idea of the network, and evaluates two conceptual representations of networks as tools for analysis in this thesis. Actor-network theory (and the critiques of it) of it are explored in some detail, and their relevance as a mechanism for examining the objects in the British Museum will be examined. Secondly, I look to the work done by museum anthropologists and cultural studies scholars for a theoretical basis which shows how items in the collections of the BM exist as part of wider networks of objects, power and exchange. This theoretical framing will be used in Chapters 3 and 4 and 7 to show how these different networks have influenced the formation of the identity of the Museum over the last 200 years and how they continue to influence the way the Museum interacts with other institutions in digital networks.

2.1 Making Meaning – Decisions in Digitisation

In order to make the argument that record and collection digitization in museums is not a neutral, technical exercise but also a process of meaning making and knowledge production, this thesis is positioned at the junction between digital asset management and digital preservation in cultural heritage. Using the work of practitioners from library and information science, digital asset management and ethnography this section examines how large-scale digital cultural heritage digitization projects are planned and executed, and how the invisible, political structures which facilitate the collection, classification and distribution of data leave traces in the digital records (Beltrame and Jungen, 2013).

The process of digitizing cultural heritage materials involves a complex set of steps and decisions, which need to be carried out in a particular order, involving different actors and agents, all of whom may have different interests and agendas related to the objects (Tanner, 2001). Curators, preservationists, researchers, archivists, librarians, technicians, developers, project managers and funders all have a role in the processes by which an object attains a digital surrogate. The processes of selection and appraisal (which have grown out of museum, library and archive collection management) are critical to digitization as they

provide transparency around how and why decisions are made (Tanner, et al, 2016). The final digital object may have many forms: it might be part of a hybrid online collection, could be accessed via a web page or portal, may be a composite part of a larger catalogue or database, or exist as a stand-alone object. Once created, these digital objects are not static – either within the repository or outside of it. The digital files require maintenance: they must be checked, tested, upgraded and protected from technical obsolescence. Outside the database, they might be downloaded, shared and distributed across the web. While some of these processes can be said to be rooted in museum practice (Gosden & Larson, 2007 p.5) collection, accession, cataloguing, preservation and collection management are not precise duplicates for the steps in digitization planning. However, they do share a constructive aspect – new constellations of objects and meanings are created as a result of the enactment of these processes in both the digital and analogue variations of collections management. At present, the complexity and cost of mass digitization makes it difficult to imagine that all objects in an institution with the scale of the British Museum will ever be digitized (Dahlström, 2011). In years to come this may change, as advances in technology mean more content can be managed at less cost, but for the present moment, this initial restriction implies that a choice needs to be made between what material to digitize and what not to. If we accept that museums and their collections are not only repositories of knowledge but also sites of political, social and cultural power (Aronsson & Elgenius, 2014; Macdonald, 2013; Knell et al., 2012; Bennett, 1995) then it is important to analyse how they digitize their collections, since this cultural power informs the decisions that are made, and influences the shape of the resulting collections.

To date, there has been relatively little written about the history of museum computing as it relates to these questions. Parry (2007) has highlighted this absence, suggesting that it is only since the current ‘cultural turn’ in museum studies that the historical and theoretical space might be opened up for this type of analysis. Writing almost eight years later, Sartori (2015) comments that the intellectual history of museum computing is still in its infancy, particularly when compared to the work being done in the archival and library sectors (p:1). While these points will be addressed later on in the research, particularly in Chapter 7, it is necessary to note that for the purposes of this theoretical chapter, I intend to draw on work done across the information society – including from library and archive science – and to apply it in the museum context. A deliberately interdisciplinary approach, which includes work from including human-computer interaction, social network analysis and cognitive science, as well as museum studies and library and information science has emerged, in which researchers in all of these areas are working to develop the methods and

theories which underpin the study of museum informatics and other forms of digital cultural heritage (Marty, 2010: p.11).

From a social theoretical perspective, Tony Bennett's work (2005) builds on Pierre Bourdieu's (1990) theory of the development, exercise and withholding of cultural capital in cultural heritage institutions as a means of investigating how cultural classes bolster their dominance over one another. Using Bennett's approach, it is possible to unpick how collective national identities are manifested in cultural heritage institutions: material which selected for preservation defines communal heritage and identity and providing access to this material is seen as being crucial to social cohesion and a public good (MacDonald & Alsford, 2010: p.305-306). This orientation makes the process of digitizing and providing access to museum material a socio-political as well as a cultural endeavour. With regards to the selection of objects for digitization, then, it is important to note that the final digital collection will, invariably, reflect the biases of those involved in the decision at that time (Tanner et al, 2016). In digital asset management, how an object came to be included in a digital collection is understood as the result of a decision-making matrix (Higgins, 2011 and 2008) which includes multiple interrelated factors. This interrelated reality does not mean that the value of the final digital collection is questionable. But it does raise the potential for subjective weighting or prioritization of certain elements in the decision-making process which lead to the digitisation, depending on the context.

Fiona Cameron argues that 'an object's significance lies more in its role in sustaining a socially symbolic meaning, such as local or national identity, rather than in their contexts of use or consumption.' (2008; p.229) The role of the cultural heritage institution in shaping an identity and reflecting (or refuting) political realities is a theme I will return to many times in this thesis. The implications and possibilities for digital collections to subvert previous dominant narratives however, are only beginning to emerge, as these institutions grapple with the challenges of becoming digital and presenting themselves in the networked digital public space. One implication is that digital collections, and those who are responsible for creating and maintaining them, may potentially have a significant role in the development of a society's presence and perceptions of it in the digital space, meaning that archivists, librarians and curators are well on their way to being, as David Bearman argues, agents of social policy (2002, p.328, see also Cook & Schwartz, 2002, and Parry, 2007: p.135). This idea will be explored further in Chapter 7, alongside the question of what a British national web might look like.

Exploring the themes outlined in this introductory section will require engagements with a broad range of theories and research areas. In this way, the approach reflects the interdisciplinary nature of museum studies (Macdonald, 2011, p:14) and the interdisciplinary approach which is a feature of digital humanities and museum computing (Parry, 2007 p.xiii). Archival theory, museology and cultural studies all offer methodological tools which will be used in this analysis; the history of museum computing provides contextual background and digital ethnography offers some visions of possible theoretical futures. Later chapters will make use of digital methods used in web studies, and underlying much of the research is the humanities-oriented approach of reading historical sources for evidence. With this range of theoretical juxtapositions in mind, this chapter is intended as less of a theoretical framework designed to be extended throughout the thesis, and more as a conceptual introduction, which lays the essential groundwork for an intentionally interdisciplinary dissertation. Different theoretical engagements will be introduced and used throughout the work, and several will be returned to repeatedly. Rather than introduce them all here, the following chapter sets the scene by outlining the major themes of identity, museum practice, the networked museum and cultural heritage in the digital space, thus setting the scenes for the deeper engagements as the thesis goes on.

2.2 Knowledge, Musealisation and Meaning

An important aspect of this thesis is understanding how a museum's institutional identity might be affected by, and at the same time be conveyed through their documentation and presentation of objects and collections – ie: how they use material knowledge. In order to explore this, it is necessary to begin by understanding how museums became the repositories and sites for knowledge collection. The subsequent sections will then develop the arguments which explain how representations of knowledge and culture are used to broadcast particular identities and how objects are invested with meaning, and connected in wider networks, both in the physical and digital worlds. At the outset it is worth noting that these objects may be digital or analogue in their original state; some are the digital renderings of material objects, others are born-digital objects which have only ever existed as packets of information. This research takes the position that the nature of the memories being conveyed by these objects does not differ depending on the form, i.e.: an object's meaning does not change if it becomes digitized. More information may be added to it, but nothing is negated. Digital rendering may make it possible for multiple sets of memories to be made available, some of which may have been silenced in the past, but this does not require the erasure of the existing stories told by the objects.

A useful starting point in thinking about how to approach the theme of knowledge representation and transmission in museums is with Pierre Nora's *Realms of Memory* (1996; see also 1989). In it he outlines the argument that the acceleration of history has eroded the role of memory as part of everyday lived experience in society (1996: p.2). Instead, it is replaced with *lieux de memoire* – the places and objects within which history becomes the predominant mode of remembering. This acceleration is marked by the loss of 'a historical past that is gone for good... [and] a general perception that anything and everything may disappear' (Ibid) and results in 'memory without a past, that eternally recycles heritage... a form of memory which is nothing but history, a matter of sifting and sorting' (1989: p2).

Nora's somewhat bleak view is that *lieux de memoire* are themselves relics of a lost era (p.7). He argues that as modern memory becomes more externalised, it relies more heavily on specificity, traceability and materiality as external props and reminders of our own, disappearing memories. This has resulted, he says, in the drive and desire to save, archive, record and keep everything, lest we risk losing what we think of as memories (p.8) These are kept in the physical spaces of archives, libraries, museums, repositories and databases which become:

'the *lieux de memoire* significant entities, whether material or non-material in nature which by dint of human will or the work of time have become a symbolic element of the memorial heritage of any community.' (Nora, 1996: p.xvii)

Their purpose may be to buttress our identities, but the truth about all *lieux de memoire*, Nora argues, is that they too need to be protected from the sweep of history, and if they are not kept safe, they will also be brushed aside by progress (p.7). Nora points out that while memory objects have a symbolic role to play, it is their material nature which is vital to their survival, in other words our memories rely on their existence and visibility. (Ibid).

He also notes that in order to elevate familiar objects to the status of *lieux* it is not enough to simply select them, they need to be constructed. This argument will be a useful formulation for later chapters where I explore how in several cases at the BM, and in museum records more widely (Turner, 2015; Doyle, 2013; Lee 2011) the narratives embedded in museum collections privilege one perspective over another. These weighted descriptions not only reflect the biases of the historical context in which they were created - they are also necessary to justify the existence of the institution in and of itself. Latterly, the idea of memorialization as a means of shoring up identity has been the base from which several investigations into the proliferation of national museums in Europe have been launched

(Aronsson & Elgenius, 2014; Macdonald, 2013; Knell et al, 2012 Poulot et al, 2011). These studies have uncovered the intricate historical relationship between museums and the making of the nations and states (Aronsson & Elgenius, 2014: p.1) and trace how national museums create models for and representations of nations and their pasts, presents and futures (Knell et al, 2013). While the web was not yet a widespread reality when Nora was writing, it is possible to imagine that the increasing ability to copy, growing capacity of digital storage methods and the decentralisation and democratisation of the mode of creation would add to what Nora termed a 'pathology of preservation and hypertrophy of memory' (p.9). This pathology and desire to keep everything out of 'the fear that everything is on the verge of disappearing, coupled with the anxiety about the precise significance of the present and uncertainty about the future invests the humblest testimony with the dignity of being *potentially* memorable' (1989: p.13).

Here, Nora anticipates the arguments raised by Derrida in *Archive Fever* (1996), one aspect of which deals with the repetitive, compulsive desire of modern society to preserve, conserve and return to the archive as a source of truth, while at the same time acknowledging that the act of archiving imprints the archive with a constructed identity based on the choices made by the archons – those guardians who have the hermeneutical right and competence to interpret the archives (p.10). Derrida uses this argument to highlight the fragility of the archive, but also to point to the future power of the archive as opposed to Nora's rather more bleak prediction of a future cluttered by increasingly meaningless memories and their representational artefacts. Both Nora and Derrida wrote at the tail-end of the 20th century, when the technology that has made the production of born-digital memory objects was only just beginning to become ubiquitous and accessible. The unprecedented access we have to both the materials that make up history, and the means of producing these materials ourselves has revolutionised the ways people remember, and how and where these acts of memorialisation take place. This echoes the work of the German philosopher Joachim Ritter, who argued in the 1970s that modernity institutionalized the past, eroding traditions and transferring the responsibility of maintaining of cultural traditions from communities into institutions such as museums (Ritter, 1974 in Macdonald, 2013: p.138).

In the introduction to *Save As... Digital Memories* (Palgrave, 2009) Joanne Garde-Hansen, Andrew Hoskins and Anna Reading note a 'memory turn' (p.3) in the 1970s and which has continued to the present, as the technology to create, record, store and share individual memories has become ubiquitous. Using the screening of Holocaust documentaries on television in the late 1970s as their starting point, they argue that digital memories are being created almost continuously via mobile telephones and online; are instantly accessible

and transferable, and therefore have an impact on how individuals, groups and entire societies remember and forget aspects of their immediate and long-term pasts (p.3-9).

If Nora and Derrida are useful for explaining how knowledge moved from being something people lived with to something embedded in institutions such as museums and archives, then the next aspect we need to investigate is how this knowledge was then redirected back to the public, making them a tool that can be co-opted as part of the wider nation-making project.

2.3 Collecting assemblages

History is collective and social memory made formal through incorporation into narratives, which are in turn institutionalized by being included in school curricula, national heritage sites, commemorative events and museums, thereby becoming public (Jordanova, 2006). In museums, the processes of collection development and management can be seen as microcosms of the society-wide institutionalisation of collective and social memory – through the systematic organisation of knowledge and narratives in collections of objects. By examining and comparing how knowledge and narratives are organised in material and digital museum collections can highlight similarities or divergences between digital and non-digital collection development.

No museum collection is created by chance. As Susan M. Pearce argues, all museum collections have three characteristics in common: they are made up of objects, these objects come from the (recent or distant) past, and they have been assembled into a collection with a degree of intent by a curator who believes that the whole is more than the sum of its parts (1992: p.118). This intent provides the narrative thread which runs through a collection, and demands that we recognise that the version of history told by these collections is a refined one, which has been shaped by various players and for various reasons, not all of which are always made visible. Ludmilla Jordanova argues that to the eye of the general public, the means by which collections come into being is 'heterogeneous' (2006: p.127) and that it is helpful to know how objects were brought together, at whom they are being directed and what the politics behind these processes are. She goes on to argue that museums often have 'significant silences' (2006: p.129) which render these processes inaccessible and unimagined. If we are to consider museums and other heritage sites as major communicators or narrators of public history in both the digital and analogue realms, we need to consider and examine these silences and their effects as eloquent communications of particular, value-laden senses of the past. While building and shaping museum collections may have been the prerogative of elites in the past, Jordanova's accusation highlights one of the key points of the

relational turn in museology in the 1980s, which will be explored in deeper detail later in this chapter.

As later sections will show, since this shift took hold, new generations of museum practitioners are taking pains to make their collecting processes as open and inclusive as possible, in an attempt to both revise the museological narratives and reshape museums in ways that make them better equipped to reflect the communities they serve and the histories of the collections. One powerful approach has been the incorporation of assemblage theory into the planning and analysis of museum collections and memorial sites (Waterton & Dittmer: 2014; Harrison et al: 2013). Based on the theories put forward by Deleuze (1991) Deleuze and Guattari (1980) and advanced by DeLanda (2006) assemblage refers to a series of heterogeneous groupings of entities, in which the grouping itself could be distinguished as a whole from the sum of its parts. Groupings are mixed, and social or cultural groupings are not distinguished from natural ones (De Landa, 2006: p11). As entities composed of heterogeneous elements, assemblages are framed as an alternative metaphor to the idea of organisms - these groupings are not the result of the functions of the components themselves but are the product of them exercising their capacities – in other words, they are not the inevitable outcome of the function of the components but a product of their particular histories and relationships with the other parts of the assemblage (De Landa 2006: 11). Assemblages are characterized by the relations of exteriority they contain – they are not governed by a central nervous system and agency is distributed across and through the assemblage, as well as within it (Anderson & McFarlane 2011). Assemblage theory allows that objects can be part of multiple groupings, and the open nature of the system allows new entities to enter and old entities to exit the group. As such, assemblages are dynamic and may experience continual surges and restructurings and relationships of functional flow and volatile friction and conflict (Bennett, J. 2009: p23). As it has been used by museum theorists (see Bennett, T. 1995; Pearce (ed) 2003; Macdonald, 2009; Cameron, 2010) assemblage helps to think about formation and reformation of collections across time and space and shows how shifts in meaning and the lack of fixity does not necessarily undermine the stability of the assembled collection.

Acceptance of this underlying instability has added to the general move towards reflexivity in museums which includes showing how the grand narratives came to be constructed in collections, critically appraising and at times refuting their impact, and involving multiple stakeholders is considered to be a significant curatorial responsibility (Macdonald and Silverstone, 1990: p.177).

2.4 Museums as Mouthpieces: the role of the state

The coinciding emergence of the modern museum with the development of the modern nation state is a subject which has been well examined by historians, museum scholars and cultural theorists (see Bennett, 2004 and 2005; Poulot, et al, 2011; Chakrabarty, 2002; Dodd et al, 2012; Coombes, 2006) . Chapter 3 will take a closer look at the specific relationship between the British state and the British Museum, and examine how the mutually beneficial relationship resulted in an institution which developed a certain character, and which, through its exhibitions, documentation and positioning in society in general, transmits a certain set of values to the public. It is also possible, at this point, to lay the theoretical groundwork which examines the inevitable silences and tensions may be addressed by digital technology.

For Jordanova, the development of public history is closely bound to the state and the process of nation formation (2006: p.126-49). In Europe, national museums have been used since the Napoleonic Wars as a means of nation-making and nation-building, and are seen as 'essential in justifying the autonomy of the state as being distinctive, unique and necessitated by historical logic' (Aronsson & Elgenius, 2014, p.2). Museums were evidence of the 'goodness' of the state and the civic-mindedness of the citizenry – a situation which has led to the continued proliferation of museums all over the world (Duncan in Karp & Lavine, 1991: p.88). As institutions of empirical evidence, museums have become places where it is possible to consolidate a sense of belonging, which is ultimately translated into the broader concepts of nationhood and citizenship (Dahlgren & Hermes, 2015).

As a museum funder, the state is positioned at the centre public history, and it is the state's understanding of the imaginative power of the public history that allows political and social elites to shape historical displays and weave a moral discourse around objects (Jordanova, 2006: p.137). In museum studies, Tony Bennett's Foucauldian-influenced positioning of the museum as an 'institutional apparatus in the service of the early modern state' in *The Birth of the Museum* (Bennett, 2005 see also Cameron, 2010 p.113) has been highly influential. Of particular importance has been his notion of the 'exhibitionary complex'. Bennett developed this idea to explain how nineteenth-century institutions, linked by shared exhibitionary practices, were used as a public arena where, through representations of the artefacts of others, the modern state was able to inscribe culture and broadcast its power. This allowed the liberal state to shape the emergent publics into new relations of knowledge and power in the modern liberal democracy (Bennett, 1995, p.74). Bennett characterizes the museum as a governmental institution which exists, in essence, to regulate subjectivity through culture. The concept has been foundational, in part because Bennett has been one of

the pre-eminent museums theorists of the current period, whose career has mapped to the progression of thinking in the field (Witcomb & Message, 2015, p.xlvi) but also not least because it has given subsequent theorists a subject-object or viewer-viewed dichotomy against which to react (see Hetherington, Dudley and Witcomb, all in Witcomb & Message).

Contemporary museum thinking continued to evolve to beyond the position that the insatiable need for memory and commemoration is utilized by the state as a blunt tool for nation building. Because the past is public property, and publics are continually evolving, more diverse publics are beginning to demand visibility and voices within museums (Butler in Message and Witcomb, 2015; Curtis, 2006, Gregory & Witcomb, 2006). As more groups seek recognition of their status through the medium of the museum (Huyssen in Macdonald) museums themselves have the capacity to provide an illusion of stability, despite the constantly shifting meanings contained within them. Sharon Macdonald points to the heritage boom in Britain in the 1980s as an example of how museums and other heritage institutions serve a stabilising role as 'market-safe pasts of stable social relations in the face of the decline in industry and social unrest' (Macdonald, 2013 p.141) and positions museums as one possible form of temporal anchoring in the face of a loss of tradition (p.138). This anchoring facet highlights the contradiction Bennett notes, which is inherent at the heart of the museum and with which museum practitioners must grapple:

'The past, as embodied in historic sites and museums, while existing in a frame which separates it from the present, is entirely the product of the present practices which organize and maintain the frame. Its existence as "the past" is, accordingly, similarly paradoxical. For that existence is secured only through the forms in which 'the past' is publicly demarcated and represented as such, with the obvious consequence that it inevitably bears the cultural marks of the present from which it is purportedly distinguished.' (1995, p.130)

In order to make sense of the paradox Bennett highlights, it is useful to turn to the work on identity done by postcolonial scholars, anthropologists and cultural theorists Stuart Hall (1994), Paul Gilroy (1993), Arjun Appadurai (1996, 1988) and James Clifford (1997). They argue from various perspectives that identity is never fixed (Hall, 1990: p.229) and that the cultural products which emerge out of these shifting ebbs and flows of culture are no less convincing or tangible than those produced by the dominant narratives (Appadurai, 1988). More importantly, cultural products emerging out of the uncertainty of postcolonial identity

formation can be used to ascribe tangible agency to those who created them (Gilroy, 1993). These positions have been embraced by contemporary scholars of museums, including those like Haidy Geismar (2013), Paul Basu (2011; 2012) and Robin Boast (2011) who are exploring how digital technology may be used to expand the exhibitionary complex, and highlight and reinforce the agency of previously marginalized groups in the museum space.

The instability of identity is sharply evident in the informational flows of the digital space, and highlights the importance of anchors and bolsters for identity which may mirror the permanence of the material world (Garde-Hansen, Hoskins & Reading 2009). However, some anthropologists and museum scholars have argued that this impermanence might be a way of tackling the misrepresentations of the past. James Clifford (1997) argued that if we are to fully understand the nature of identity in the 'new global cultural economy' (Appadurai, 1990) we need to reconsider the discourses which polarized the post-colonial experience into essentialised binaries of origin/exile and think more in terms of 'lived tension, the experiences of separation and entanglement, of living here and remembering/desiring another place' (Clifford 1997: 255). This framing creates more web-like temporalities, in which there are ongoing processes of remembrance, forgetting, disconnections and reconnections. In this framing, it is possible then, to accept that museums and the objects contained within them do not possess singular truths or meanings and that the reality is unfixed, mutable and subjective. In his review of the British Museum's exhibition of Ice Age Art: Arrival of the Modern Mind¹⁰ in the *London Review of Books*¹¹, T.J. Clarke writes of the difficulty of describing Ice-aged figures carved from bone and ivory. While the accompanying text implied that the figures were human, Clarke explained, we, the viewer are unable to assume that they represented men or pregnant women or even giants when it is possible that no words to describe those states of being existed when the objects were created. Authenticity has long been a concern for the museum practitioner and archivist (Bearman & Trant, 1998), and another layer of complexity is added if we are to think about the ongoing shifting of object-related meaning in the context of digitised objects, which may lack materiality. And while we might not be sure of what an object is, it is possible to describe what an object is made out of, its dimensions and physical appearance. This becomes less possible when, at one level, the object is a collection of bits and bytes, potentially rendered hundreds of thousands of times on computer screens all over the world, via the web.

¹⁰ 7 February – 2 June 2013.

¹¹ London Review of Books, Vol 35, No.6, 21 March 2013:

<<https://web.archive.org/web/20160926162847/http://www.lrb.co.uk/v35/n06/tj-clark/lucky-hunter-gatherers>>.

The materiality of digital objects, their significant properties (or lack thereof) and their cultural value are areas that will all receive significant attention throughout this research. This will include close readings of objects as well as more distant readings of collections, in an effort to see how cultural heritage institutions are managing the potential of digital collections and objects. This needs to be done with an overall understanding of the identity of the institution undertaking the work. Dahlström, Hansson, and Kjellman (2012) argue that the process of digitisation itself transforms the identity and role of the cultural heritage institution undertaking the work, and allows it to define this identity via the process of privileging some narratives over others (p.467). Whether there is evidence of this process of remediation and redefinition of meaning in the digitization work done by the British Museum will be one a key focusses of Chapters 5, 6 and 7.

2.5 The New Museology, and the Relational Shift

This first half of this chapter was concerned with establishing how museums were constructed as spaces for collecting knowledge, and how this was instrumentalised in society. This second half turns toward museum theory, beginning with a brief history of the development of what was known in museum studies as ‘the new museology’ (although it is now almost thirty years since it was new, and much of the thinking has been assimilated into museum practice and theory). As well as tracking how this framework for thinking about museums has developed over the last two decades, I will investigate how museum theory is beginning evolve alongside digital technology, and how museums are beginning to use the language of digital technology to describe their visions of the future.

Museums have both semiotic and epistemological power as tools for the creation, maintenance and dissemination of national heritage and identity. They are positioned as the public-facing repositories of a nation’s cultural self-worth – collecting, preserving and displaying the materials that have been deemed significant and valuable enough to warrant the cost and effort of preservation. Paul Vergo’s 1989 edited edition *The New Museology* gave a name to the growing move away from ‘business as usual’ in museum practice and among scholars of museums (of which, at the time, there were not that many, although this has changed). In the introduction, Vergo makes the argument that museums were under-theorized:

‘what is wrong with the “old” museology is that it is too much about museum methods, and too little about the purposes of museums; ... museology has in the past only infrequently been seen, if it has been seen at all, as a theoretical discipline’ (p.3).

As well as suffering from a lack of theory, the essays in the book made the case that the study of museums needed to be broadened in order to include three significant areas of museological concern: firstly, that museum objects are not neutral and that their meanings are situated and contextual (see Charles Saumarez Smith's essay, p.6-11 and Vergo's essay p.41-59). Secondly, that the study of museums should include other aspects of their activity, such as commercialism and entertainment (see Colin Sorensen's essay on theme parks p.60-73 and Paul Greenhalgh's essay on education and entertainment in the Great Exhibitions of the 19th century, p.74-98). Finally, the book makes the case that the study of museums should include the perceptions of those who visit them (see Philipp Wright's essay p.149-173). These essays in combination made the case that the meanings of museums and their collections could not be seen as fixed or bounded, but were in fact contextual and contingent.

Influenced by the methodological debates around representation and the feminist and post-colonial critiques which were gaining prominence at the time, museum theorists continued to explore the concept that museum meanings might be unfixed and subjective, particularly those working in the context of the broader developments in cultural critique and social studies which were taking place in the early 1990s (Macdonald, 2011: p.9). Museums found themselves drawn into the culture wars of the period, becoming 'sites at which some of the most contested and thorny cultural and epistemological questions of the late twentieth century were fought out' (Ibid).

Since then, Foucault has been a major influence on museum studies (Mason, 2011: p.23). Eilean Hooper-Greenhill's *Museums and the Shaping of Human Knowledge* (Routledge, 1992, see also Chapter 4) draws explicitly on Foucault's historical *epistemes* to map changes in knowledge perception and museums. Tony Bennett's essay *Exhibitionary Complex* (1998) which became a chapter in *The Birth of the Museum* (1995), and which has already been discussed in this chapter, is another important museological text which is based on a Foucauldian ideas of discipline, power and governmentality. The analytical methodologies of structuralism and semiotics also influenced the development of the new museology.

After almost twenty years of 'new museology', scholarship in museum studies has grown and broadened its focus from thinking about the politics of museum to including the practice as well. Questions are being asked which reflect the complexity and ambivalence within museums (MacDonald, 2011, p.5) and museums are being seen as sites where theory and method may be applied simultaneously (Witcomb & Message, 2015). Tony Bennett refers to these shifts in focus as the 'material and relational' turns in museum studies (Bennett in Witcomb & Message, 2015: p12). These turns, Bennett argues, do not represent a break from

the Foucauldian-influenced paradigm that came before it, but are an extension and development of that thinking, which take into account the increased work being done by anthropologists and archaeologists, particularly those working within post-structural and post-colonial theoretical frameworks (Ibid: p.13, see also Parezo, 1998: 183, Meskell 2009). While the relational turn has not moved museum studies away from this Foucauldian base, it has broadened the theoretical field to allow for more post-modern, post-structuralism-oriented approaches to the concept that there is no fixed meaning in museums.

Fiona Cameron characterizes the shift using language that would feel familiar to those working in the digital humanities and the semantic web - she describes the move as one which uses 'relational ontologies to understand museums' (2014, p.23) and urges a view of museums in which 'pluralistic narratives arrange information into galaxies of relationships and links' (2003, p.327). These relationships and links, she argues, coalesce into networks, which can be used to reveal the provenance of digital historical objects and establish their cultural value. The value of digital objects is dependent on their place in the network and this value is changeable, depending on what that place is (Cameron & Mengler, 2010). Cameron has recently developed a new conceptual model for museums, which she refers to as the 'liquid museum' which has emerged as a result of research into the interplay between museum display and climate change (see Cameron, 2010; Cameron and Mengler, 2012, and Cameron in Witcomb & Message, eds. 2016). Modern museums, she argues, are based on '...hierarchies; nature/culture dualisms; modern precepts of certainty, objectivity, truth and expertise' (2016, p.345) with an overly historical focus which renders them philosophically and ontologically ill-equipped to face the 'messy and turbulent' world in which they are enmeshed (Ibid). Drawing on the relational shift in museums, actor-network theory, and the critiques of it (both of which will be expanded on in the following section) as well as on research into how science museums have responded to the issue of climate change, Cameron proposes a view of museums which incorporates new vocabularies for thinking creatively about museums and their roles in the context of the evolving compositions, dynamics, and materialities of the societies in which they are situated.

The liquid museum engages a different ontology of the social and different spatial forms, which Cameron refers to as the 'space of flows' (2010, p.122). Informed by Bauman's concept of liquid modernity, the space of flows is characterised by complexity, liquidity and emergence, and of assemblages of human and non-human hybrids. From within the space, we are able to 'view the present and the future in different ways, to observe interactions between multifarious discourses as a creative process in the formation of climate change governmentalities, and to see the future as open and emergent' (p.122). This framing may be

conceptual, but it has significant appeal in the digital context. Kallinikos et al's theory of digital objects (2010) claims that all digital information artefacts are linked by a set of generic attributes: they are editable, interactive, open and distributed (Ibid: para.6-9). They argue that as the creation and use of digital objects spreads through an institution, these attributes become installed at the 'heart of social practice'. Since these characteristics are essentially destabilising and transfigurable the practice which incorporates them is in turn destabilised and transfigured, and creating a context where 'the certainties of recurring and recognizable objects are on the wane' (Ibid). If the future museum is a space of fluidity and mutable meanings, then the digital medium seems best suited for reflecting this unstable nature and allowing it a space to take some type of informational form. Chapter 4 will explore the implications of creating shifting meanings in unstable objects in more detail.

Sharon Macdonald points out that this post-new museological turn is not a repudiation of the thinking which informed the new museology, but is a shift and development in several distinct thematic areas where work is currently taking place. In her introduction to 2011's *A Companion to Museum Studies*, she specifically highlights the four threads in current museological thinking: the fleshing out of the idea that object meanings have a contextual dependency; a growing acceptance that museum practice can be conducted outside the museum; emergent research which examines and reflects the fact that audiences are more diverse and active than initially considered and, finally, an allowance for the fact that changing governmental and financial contexts have an impact on museum activity (2011: p.6). She also notes that the broadening of the scope of museum studies to include other institutions and groups has resulted in an increased acknowledgement that there is a relative specificity to museums despite any overlaps with other types of organisations (2011, p.4-8). She points out that overall this shift can be characterised by a 'reconnecting of the critical study of the museum with some of the 'how to' concerns that the new museology saw itself as having superseded' (p.8).

It is this renewed connection between the practical and the theoretical that opens the possibility for an intersection between museum studies and the digital humanities, and which has prompted the questions which form the core of this thesis. The tools being tested by scholars of the web and humanities computing can complement, and even supplement these explorations of 'how to' questions; not only because they offer potential for new technical possibilities, but also because of the prospects for conceptual refiguring which they bring.

2.6 Digital Objects: Significant Properties & Baked-in Biographies

This relational mode of thinking includes the view that museum studies can be seen through the lens of systems thinking - a framing which sees the world as interconnected and interdependent, in which activity between organisms or individuals is contextualised, interactive and sometimes co-dependent (Capra, 1996; Bateson, 2000; Senge, 2006, Seyfert 2012). In this framing, museums can be seen as ecosystems embedded in wider fields of other, interrelated ecosystems (Fopp, 1997; Jung 2011) between which there is a constant flow of activity incorporating humans and non-human actors. In particular, the influence of systems thinking can be seen clearly in the intersectional work being done in the overlap between material culture anthropology and contemporary museum studies.

This has resulted in the development of the notion of object biographies as a means of rethinking meaning in museum objects, and investigates how the institutions, individuals and processes with which they have contact add to their unique, unfixed meanings (Alberti, 2009; Gosden & Larson, 2007). In addition museum scholars and curators are increasingly recognising the role of affect and embodied or sensory forms of knowledge production in the responses of museum audiences, and making use of this in their attempts to build meaning in collections and exhibitions and as a tool for reflexive institutional examination (Gregory & Witcomb, 2007; Chakrabarty, 2002, Bennett, 2016; Harrison, Byrne & Clarke (eds) 2013; Crang & Toila-Kelley, 2010). This refiguring of how objects come to be in collections by way of gifting, purchase, fieldwork, transfer or loan (Alberti, 2009) has significance for helping us understand how it is possible that museum collections are shaped by distant actors (Bennett, 2015, p.12). It has also influenced the way museum scholars have reconsidered the ways in which indigenous people with are invested with agency in the process of collection development (Harrison et al, 2013; Basu, 2011; Gosden & Knowels, 2001). As Bennett puts it '...indigenous people shaped the collections of colonial museums in deciding what they would give and what they would withhold' (2015, p.13)¹². This relational approach to the process of collection development can help us to shift our understanding of collections in a museum such as the BM from a simplistic coloniser/collector - colonised/collected binary into a framework which acknowledges the more nuanced relationships and networks of transactions which took place to get them there. This framing will be used several times in the analytical chapters

¹² Of course, it is important to remember that significant numbers of ethnographic collections were acquired through coercion and violence. In 2005, Professor Jack Lohman's appealed to museums in London to acknowledge their origins: 'Many museums were born out of the pain of conquest. I feel that there is a need for the museum community to acknowledge that pain. Museums that present the culture of the world need to acknowledge the story by which those collections were acquired. An apology for this pain is necessary' (Lohman in Barrow et al, 2005, p.5).

of this thesis, particularly in Chapters 4 and 5, when the analysis will focus on the British Museum's digitisation of objects and records from its collections and in Chapter 6, when the critiques of Clifford's concept of the museum as a contact zone will be further developed.

Conveying significance - the value and meaning that an item or collection has for the people and communities who access it, is a fundamental of museum practice (Russell & Winkworth 2009, p.10). The significance of some objects in the BM's collection is immediately evident: some have archaeological importance, such as the Rosetta Stone or the Sutton Hoo hoard, need little further explication to the viewer. However, the significance of other objects may not be immediately evident. For example, the Lampedusa Cross¹³ is a wooden cross, 38cm high and 28cm wide, made of wood, and covered in scuff marks and chipped yellow and blue paint. At face-value, it seems ordinary; however, the curator's note in the record offers the following detail:

'This cross is made from pieces of a boat that was wrecked on 11 October, 2013 off the coast of Lampedusa. 311 Eritrean and Somali refugees were drowned *en route* from Libya to Europe. Inhabitants of Lampedusa helped to save the lives of 155 others. After meeting some of the survivors who are Eritrean Christians in the church on Lampedusa, Mr Tuccio, the island's carpenter, was moved by their plight but felt frustrated that he could not make a difference to their situation. The best he could do was to use his skills as a carpenter to fashion each of them a cross from the wreckage of the boat as a reflection on their salvation from the sea and hope for the future...'¹⁴

By including it in their collection, the Museum is signalling that the cross has significance because it embodies a narrative and represents the complexity of '...an extraordinary moment in the history of Europe, and the fate of Eritrean Christians' (see curator's note). Identifying and conveying significance, particularly in terms of collections which are very old, or which have less than straightforward provenances can be difficult (Preziosi in MacDonald, 2011, p.53). Russell & Winkworth's in-depth study of collections in Australian museums, libraries and archives shows that wider access to collections has destabilised the authority of curators, and they argue that if curatorial best-practice holds that it is possible to have multiple simultaneous understandings of objects, then assessing and

¹³ British Museum object no. 2015,8039.1.

¹⁴ <https://web.archive.org/web/20160926162949/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=3691920&partId=1&searchText=cross+lampedusa&page=1>.

evaluating the significance of these objects demands consultation with the communities in which they originated. (2009: p.13). They conclude that significance, as a property of objects and collections, is '...not an absolute state. It is relative, contingent and dynamic' (Ibid).

This definition compliments the overall theoretical basis of this chapter (and this thesis in general) that meaning in museum collections is not fixed, but always in flux. In practice, then, the question which follows is how does one extract these shifting meanings and make them known to the museum visitor in a way that conveys both an object's significance *and* the interpretive possibilities of unfixed meanings?

One of the key arguments of this research is that digital objects offer a two-part potential solution to this question, firstly because digitisation offers the potential to re-make an object, and secondly because digital objects have the capacity to hold many different kinds of information in different forms (Buckland, 1991: p.353-356). In this section, this argument will be developed through an engagement with museum studies and digital curation theory and a critical evaluation of the way digitisation has been carried out in the British Museum.

The parallels between reconsidered museum practice and digitisation practice are striking - compare for example these two quotes from museum and digitisation professionals explaining the processes that make up their practice:

'Museum collection involves processes of assembling, categorising, comparing, classifying, ordering and reassembling, these processes relate to modern scientific practice and involve judgements of value and putting things in their place (Harrison, 2013: p11).

'Decisions in the digitisation process might include assessment and selection, feasibility testing, copyright clearance, materials preparation (including conservation), benchmarking of processes, development of metadata for discovery, data management, preservation and administration, storage solutions for long-term preservation and sustainability, workflow process development and project management' (Tanner et al, 2015).

Or these two, which explain how decisions are made in the different practices:

'On a routine basis, museums make judgement calls which may appear idiosyncratic but are always grounded in curatorial knowledge and expertise' (Gardner in Witcomb and Message, 2015: p.519).

'Digitisation, especially of cultural heritage, brings 'a curious and unprecedented fusion of technology, imagination, necessity, philosophy and production which is continuously creating new images, many of which are changing the culture within which we live' (Colson and Hall 1992: p.75).

This is not a glib comparison - it is intended to show how the processes involved in the development of museum collections and digitised collections have a great deal in common. On the one hand, this is hardly surprising - archivists, librarians and curators share many working practices (Karp, 2005; Blouin & Rosenberg, 2007; Conway, 2010;) and the principles which inform the digitisation and preservation of heritage materials requires an adherence to these principles if they are to remain accessible and useful in the future (Hockx-Yu & Knight, 2008; Conway, 2010). Museum professionals in particular have well-established procedures which inform how they select and deselect objects as part of their overall collecting duties (Kjellman, quoted in Dahlström, 2010 p.94).

But beyond understanding the methodological similarities, this framing is significant because it provides a pivot for our thinking about objects, and in particular museum objects and what their potential might be once digitised. As scholars of museum studies increasingly strive to find ways of reframing museums and their collections as spaces where many meanings can be made, kept and reflected, they are increasingly looking at objects and their biographies as the primary elements of those meanings. This provides an opportunity for those of us who are interested in the digitisation of these objects to explore and exploit the flexibility and plasticity of digital museum objects as individual repositories of an array of information, stored in multiple media.

Appadurai (1986) and Kopytoff's (1986) suggestion that objects develop biographies or meanings which are accumulated as the objects move through different hands and across different networks, and which may ebb and flow at different points (Appadurai, 1986: p.34) has been foundational to the development of object biography work (see Alberti, 2009; Gosden and Larson, 2007; Hoskins, 2006; Gosden and Marshall, 1999). The act of collecting is part of this process of meaning making and adds to the according value and moral economy of the object (Macdonald, 2011: p.82). Alberti's work on refiguring the histories of objects reveals a conception of the museum as 'a vessel for the bundle of relationships enacted through each of the thousands of specimens on display and in store' (Alberti, 2005: p.561). How to identifying, extract and convey these multiple meanings in museum settings is a

primary question in contemporary museum studies, in part because it offers some form of redress. Finding a way of accounting for the complexity inherent in objects in ethnographic collections is one way of recognising the cultural losses associated with objects which were caught up in the flows of material culture from their source communities in the colonial past. Extracting and conveying complex biographies also offers curators a mechanism for counterbalancing difficult histories and highlighting and foregrounding the values that might flow back to communities from these cultural resources in the present (Basu, 2011: p.29). If we refer back to Russell and Winkworth's definition of significance, then the accumulated biographical information fits the bill, and should be considered a significant property of the object; albeit a relative, contingent and dynamic one.

In the field of digital curation, the process of identifying what the significant properties of an object are, and which of them to preserve in the digital form is an important initial step in developing and executing a digitisation strategy. Digital surrogates are often regarded as copies of original objects, in many ways inferior to the 'real thing', but on the other hand understood to have their own distinctive qualities (Newell, 288). Establishing these qualities is not a straightforward task, (Russell and Winkworth, 2009: p.14) and many of the guidelines presented for digital curation, such as the Digital Preservation Coalitions' decision matrix for selection of digital materials, do not give specific details of how to assess an object for significance (Niu, 2014). However, Niu's review of the guidelines argues that the significant properties of a resource can be identified if through a micro-level appraisal of the resources in question (p.70). The approach, which favours a critical engagement with the objects to be digitised has been influential in the library digitisation context, and provides a useful yardstick for understanding how Newell's distinctive qualities of digital objects are both managed and created in both large-scale and small-scale digitisation projects.

These qualities, argues Mats Dahlström (2008, 2010, 2011) are not innately inherent in the object, but are the result of a series of decisions made during the digitisation planning and execution processes, which he characterises as a complex chain of events 'every link of which might affect and delimit the nature of the final resource' (2010: p.87). This chain of events and the way it is managed during the digitisation process is what marks digitisation as more than the technical capture of content and makes it, in Dahlström's formulation, into a 'transmission activity' through which the creators of a digital resource convey meaning to the observer. He differentiates between two kinds of digitisation - mass and critical (p.89). Mass digitisation takes place at an industrial scale and cannot afford to include intellectual aspects of the objects or the associated metadata for reasons of expediency - the result, he argues is a flattened, linear transmission with scale but no depth. Critical digitisation, on the other hand,

is more manual, takes place on a smaller scale and concentrates on what is unique and contingent in the original (p.91) and could be a point at which object information which is considered biographical could be enfolded into the digital surrogate.

Both methods convey particular meanings - someone viewing a critically digitised collection or object sees an object which has been 'encoded, manipulated, labelled and interpreted' and which represents a comment on the source as well as a reproduction of it (p.92). A mass digitisation, on the other hand, is also dependent on interpretations and selections, but, Dahlström points out, these are hidden, ignored or silenced, leaving the viewer unsure of which elements of the original object have been excluded or why others have been included (p.93).

Dahlström's analysis was developed in the context of library digitisations, and he acknowledges that museums, overall, manage unique or singular artefacts to a higher degree, which would mean a tendency towards critical digitisation choices. From the museum perspective, this view is complimented by Fiona Cameron's assertion that the curatorial activity which takes place during digitisation involves an active process of meaning-making for the digital historical object which is equivalent to that of the physical object, and increases the value of the material originator: 'Edited statements and silences and their embedded subjectivity are enhanced through selections for digitisation where the digital surrogate also services classification and cultural meaning.' (Cameron in Cameron & Kenderdine (eds), 2010: p.57).

In the context of this research, where the bulk of the digitisation work in the case study has been done with the object records, both Dahlström and Cameron's analyses are useful tools. The discussion in Chapter 6 will use Dahlström's framing to look at how the BM approached the digitisation of their collection records, and will show that while the project had some elements of mass and some elements of critical digitisation, the resulting records contains silences which can only be explained as the result of choices, rather than the result of a the streamlining of scale.

2.7 Representation & Digital Objects

This research will have to consider several different frameworks that have developed to explore the meaning of historical, archival and information objects, in both their original and digital formats. The question of the object as it relates to museum practice, and the recent re-evaluations of this practice taking place in museum studies, is an important first consideration. In the same way that the earlier sections highlighted the possibility that no meaning is ever fixed or contestant, so Fiona Cameron challenges the idea that museum

collections produce stable and certain meanings or ordered categories. Museums, she argues, are no longer static places where one group collects, categorises and displays objects. Rather, they are becoming part of a network, each institution is a node in a web where knowledge transferral is no longer between producer/consumer, but an ongoing back-and-forth between users and information sources. Museums themselves are becoming objects in a space that transcends brick-and-mortar locations, and encompasses flows of interconnected cultural, political, economic and technical ideas, agendas and resources. In traditional museum practice, documentation was the central repository from which meaning was created. In Cameron's networked model, documentation is part of a larger, complex public space where object meaning and significance circulate, evolve and shift. The idea that meaning is no longer fixed, but can be repurposed, re-imagined and refigured, is not, on its own, that radical. But it does have significant implications for how museums in the networked space see themselves, how and what they imagine their purpose to be, and how they select which materials to digitise, when the significance of these objects is continually open to reinterpretation. Others have taken a similar approach. George MacDonald and Stephen Alsford (1991) argue that the object-focussed approach of museums means that, at the information level at least, we have failed to think of them as tools. This paradigm has had to be reframed in order for museums to manage their roles in the digital age in order to develop the total media collections approaches that are needed.

In *The Birth of the Museum*, Tony Bennett examines the development of the modern museum and its role as a cultural technology, which he considers to be '... embroiled in the processes of governing, which entailed a transformation in their conception and in their relation to the exercise of social and political power.' Drawing on Foucault and Pierre Bourdieu, Bennett argues that governmental power is exercised by means of detailed calculations and strategies, which are embedded in programmes and technologies, and aim at shaping and moulding the behaviour of a society in specific, desired directions. For Bennett, the museum is one of these technologies, and it has the capacity and power to shape the way a society behaves and sees itself.

This reframing is also influenced by the consideration of digital artefacts, and how values and meaning are attributed (or not, as the case may be) to their digital surrogates. These discussions will need to sit alongside and be synthesised with the new considerations of meaning of the digital objects coming out of digital humanities, and seek to examine how the materiality of the object sits with its encoded (in the truest sense of the word) meaning.

Ross Parry opens his book *Recoding the Museum* by exploring the nature of new media objects, using the five principles of new media outlined by Lev Manovich - namely that new

media are numerical; they are modular in that they are composed of discrete logical objects with separate identities which can be arranged and rearranged to create new meanings; they are variable and have a liquid, mutable quality and, finally, that they are transcoded. It is this final principle that has the most potential for a consideration of cultural heritage – for Manovich, the process of transcoding implies that new media objects embody elements which explain how society is shaped by computers, and how computers are shaped by society. Using these five principles, we are able to start building a framework that will enable us to understand the significant differences between digital objects, and their analogue antecedents.

Bruno Latour's theory of the object-centred democracy is another useful foundation for this exploration – he argues that within a network, an object becomes an enabled actor, a source of opinion rather than a matter of fact (2005: p.58). Most collections, Latour argues, have a myriad of implicit political and social tensions contained within them, which are often subsumed in the documentation process, rendering it impossible to generate any singular, truthful narrative about or around these objects. In the networked model, however, the objects transmit their various meanings, '... passions, indignations, opinions, as well as a different set of interested parties and different ways of carrying out their partial resolution.' Based on Latour and Manovich's complimentary notions of the digital object, it is possible to consider digital collections in cultural heritage collections as much more than simply digital versions of analogue objects. More than the sum of their parts, they are powerful symbols, change-agents, even; able to cause and court controversy and change opinions. They embody their own authorship – having been collected, selected, re-created and documented (Parry, 2007: p.73). They are also fluid and malleable, their meaning can shift and be shaped by other agents within their networks, with increasingly effective results, as the network grows and extends.

As we try to get to grips with the new raft of significant properties of the digital object, Fiona Cameron (2008) uses the network as the starting point for her argument that understanding the provenance of digital historical objects is as important as documenting an accurate provenance for their analogue originals. She makes the case that digital historical objects are, in general, misunderstood, undervalued and treated as suspect because their production is concealed, and this perceived lack of authorship, provenance and originality means that their materiality is poorly understood. This, she argues, is in contrast to historical objects which were 'selected and valued based on a series of assumptions as evidence of 'deep history' and authentication based on materiality' (Ibid: p.233). The resulting epistemic

relativism, she argues, is challenged when, through the digitisation process, and the positioning within the network, the object value of these historical artefacts becomes mutable.

It may be argued that the digital objects, might have added layers of meaning beyond those which they share with the analogue originator – consider for example the potential meanings that may be added to an object if it is grouped in a digital collection with objects from another collection, as is sometimes the case with reconstructions of buildings, where the component parts have been in different museums. Deidre Brown, in her examinations of the cultural values ascribed by the Maori people of New Zealand to cultural treasures, argues that some of these values are transferred by digital representation and digital objects can be seen to embody these values and added others.

What both of these writers are alluding to is a networked system of digital objects that embody several layers of meaning: the material (size, shape, colour, source, etc.); the contextual (their history and provenance, the collections within which they are located, the institutions within which the collections are located) and the wider contextual meaning conveyed by of the network. This matrix is useful for considering the digital collections which will make up this research – by considering them as active nodes in a network of objects we can consider their symbolic power and potential to convey multiple meanings across the boundaries of institutions, collections and countries.

Digital objects are complex, both in terms of their materiality (many sources, many different media) and in terms of their meaning, particularly depending on the context within which they are being examined. It will be important for this research to consider these complexities, and also to examine how meanings are constructed out of these complexities, in various contexts, and depending on what the requirements of the users of these objects are. Do curators have different expectations of the objects to researchers? Does the casual browser who is perusing a museum collection online have different needs to the historian, who is using the same collection to as a source for research?

While this piece serves as an overall introduction and scoping document for the rest of the research, it is important to note that this section, on representation, meaning and objects will require significantly deeper reading and analysis than is presently outlined. It will also need to consider the born-digital object, and the possibility that the object-centred approach for these types of materials will be different to that used in examining digitised objects.

2.8 Networks, Meshworks and Flows

In this context of shifting meanings and interrelated constellations of assembled objects, actor-network theory has become a useful mechanism for understanding the

activities and interactions between people and objects in museum settings (Macdonald and Basu, 2007; Latour and Weibel, 2005; Bennett, 2008). Actor Network Theory (ANT) is a socio-philosophical approach developed by scholars Bruno Latour, Michel Callon and John Law in which explanations for (and analyses of) complex social arrangements and activities are developed through an examination of the relationships between elements within a network (Arnaboldi & Spiller, 2011).

One aspect that makes ANT particularly attractive in museums studies is the equal weight the theory gives to human actors and non-human actants, both of which operate in those contexts. Within the framework of ANT, the study of technologies, organisations or social orders becomes the study of the connections between a heterogeneous set of actors and actants who interact with each other in the context of a network (Munro, 2009). These connections or relationships are referred to as 'associations' (Latour, 2005; Arnaboldi & Spiller, 2011). Because the agency of non-human actants, social and technical elements and human subjects is seen as equivalent, ANT can be a useful analytical tool when considering a technological field in which heterogeneous networks co-exist. In the case of this research it will be used predominantly in the analysis section in Chapter 7, when the examination shifts to how institutions like the BM might be connected to and have influence upon other actors within the networked field of a certain webspace (Latour, 1996 and 2005; Law, 1992).

Contextualised within the principles of ANT, we are able to imagine that the web, if seen as a singular entity, has as much influence on the network as any other actors, despite the fact that the web itself is a series of networks linked together by different nodes, or actors. In the context of Internet research, we can then argue that any online associations being investigated are in fact doubly networked - both technically as a series of nodes and links which constitute the Internet, and as a player within an ANT-defined network. The linguistic overlap here is more than incidental - as Cressman points out 'ANT looks to the network builders as the primary actors to follow... to 'open the black box' of science and technology by tracing the complex relationships that exist between governments, technologies, knowledge, texts, money and people' (2009, p.3).

Another reason for using ANT as one of the methodological tools for this study is the centrality that the theory affords to objects or artefacts in networks. As Law puts it, within the framing of ANT '...artefacts may, indeed, have politics. But the character of those politics, how determinate they are, and whether it is possible to tease people and machines apart in the first instance - these are all contingent questions' (1992, p.383) The argument that artefacts have agency is controversial, but through their rejection of the binary classification of issues or practices as nature or culture, science or politics and the characterisation of networks as

heterogeneous, ANT scholars have positioned objects as central to their theory. Law's discussion of the performative aspect of ANT provides a useful articulates what this might look like:

'We are in the business of creating links, of making them, of bringing them more or less successfully into being. Which means in turn that we are no longer trying to find good ways of narrating and describing something that was already there. Instead, or in addition, we are in the business of ontology. We are in the business of making our objects of study, of making realities that we describe. Of trying to find good ways of interacting with our objects, ways that are sustainable ways that make it possible to link with them'. (Law 1997: p.9)

This provides an elegant solution to the problem of social and technical determinism by helping show how society and technology are mutually constituted out of the same stuff - namely a series of interrelated and interconnected networks.

To museologists and archivists the idea that technologies (including archives and museum spaces) are not neutral is not unfamiliar or difficult to accept as the previous sections have shown. Post-Derrida, the constructed nature of these spaces is taken as a given. Thomas Richards discusses the archive as an imagined utopia, pressed into the service of the British Empire, where '...the collectively imagined junction of all that was known or knowable,' was kept in order to serve 'the fantasy of knowledge collected and united in the service of state and Empire.' (1993, p.73). Schwartz and Cook make the argument that control of an archive means control of society, but they also point out that it is important to consider the linguistic intent in a discussion archives: 'While cultural theorists and information technologists both embrace the notion of an archive as a store of information, the former conceives of the archive as a source of knowledge and power essential for social and personal identity, the latter views the archive as a neutral, even mechanical, accumulation of information for safe keeping' (2002: p.5).

By using ANT, we are able to find an elegant way of bridging the gap between cultural theory and information technology while still maintaining a particular perspective - we are able to look at both the artefacts within a museum and the museum itself as active agents within a series of networks. In national cultural heritage museums, where objects may double as repositories of ethnic sentiment, and the institutions themselves may be analogous with national autobiographies (Porciani, 2015: p.121) ANT offers an analytical framework which

brings a degree of scholarly gravity to examinations of objects and institutions and discussions about museum objects and their role in developing and cementing identity.

Despite this, not all scholars are in agreement on the degree to which ANT is a useful mechanism for understanding the connections in museums. Larson, Petch and Zeitlyn in their analysis of social networks and the creation of the Pitt Rivers Museum (2007) argue that the metaphor of the network is useful inasmuch as it 'destabilizes entities and problematizes their effects' (p.217) but point out that the term 'network' is problematic because it implies a static or fixed set of relations, rather than the reality of continually shifting, subtle relationships. They agree, however that network analysis has the potential to be a 'provocative and informative methodological tool' which can generate patterns of social interactions which might not otherwise be possible to process or visualise (p.218).

Tim Ingold has also been a prominent critic of the networked model of ANT, whose ideas have been incorporated into some museological thinking. Emerging out of his critique of ANT comes the concept of 'meshworks', an alternative framework for approaching the field in which organisms and entities exist. Ingold argues that an organism (and in this context I am taking this term to include non-human actants such as museum objects and institutions like the BM) should be understood not as a bounded entity surrounded by an environment but as an entanglement of lines, which at various points may coalesce into a knot, which travel in a fluid space. He uses the metaphor of the veins and capillaries in the body (2008: p.1806) to show how tissues which seem coherent or continuous are actually made of an assemblage of fine threads, woven tightly together, encapsulated by skin, which at first appears impermeable but is actually a permeable and porous boundary and allows for intermingling (p.1807). These relational connections create a 'meshwork' of interwoven lines which place as much significance on the movement between the assemblages as on these clusters themselves. This is in contrast to what Ingold sees as the network-theory characterisation of a node in a static network in which the relations are assumed to be mutually constitutive (p.1796-1810).

Ingold's meshworks offer a compelling framework for museologists since it provides an explanation for how museum collections in Europe developed in ways which may at first seem haphazard or idiosyncratic, while at the same time ascribing agency to the indigenous communities from which they were sourced. Trajectories in meshworks can also explain the myriad interactions with between people, processes, locations and trajectories that object encountered as they journeyed from source to museum store (Gosden & Knowles, 2011; Geismar & Mohns, 2011). As Byrne et al (2011) argue, if we use the meshwork framing, we see that the ways in which ethnographic collections were assembled 'were not "natural" or

predetermined, and resulted from complex cultural practices and the interplay of a wide variety of people, places and things' (2011: p.4). Instead, they argue, these processes continue to be active, and it is necessary to unpack these collections in order to problematize their impact both historically and in the present.

This framing will be particularly useful when, in Chapter 4, I will examine the history of the collection development in the early years British Museum, and in Chapter 5, when I look at how the Museum has chosen to present some of their collection of Benin Bronzes, which have, I argue, not been unpacked at all. Digitisation offers the potential to aid in the active unpacking of ethnographic collections because it is a process which can result in hybrid digital objects which contain a great deal of information about the meshworks they constitute.

Chapter 3: From Enlightenment to Universality – Access & Identity The British Museum

3.1 Introduction

The previous chapter outlined the theoretical argument for understanding how museums present constructed notions of knowledge and history through their collections, and how these constructions are shaped. It presented a theoretical basis for explaining how and institutional identity may be communicated and transmitted to museum visitors via the collections by means of the layers of representation and encoding by museum professionals, and demonstrated that these processes are bound to the time and context in which they are enacted, implying that they might change. Up to this point, this approach is concurrent with the theoretical perspective that sees museum collecting and activity as a product of the discourse of the time, shaped by the approaches to thinking and knowing of the period in which it occurs (Hetherington in Witcomb & Message (eds), 2015: p.27). This temporal aspect is important for our enquiry into the influence of historical context in which the Museum was founded and the influence this had on the way both the collections and the institutional identities developed and have been represented.

As outlined in the previous chapter, this thesis also considers the museum as a locus of power and governmentality (Bennett, 1995). As such, this chapter will also consider the BM's early history from this perspective, and show how the interconnected networks of individual personalities, museum governance and social context added to the identity which emerged in the first decades of the Museum's existence.

Using archival sources and other published material, this chapter will demonstrate how the men who were responsible for amassing the Museum's original collections did so in step with their social, political and professional identities, which in turn were shaped by their positions in society. These had an effect on the Museum and its institutional purpose, as well as their visions of the Museum's imagined and potential audiences. As we will see from the testimonies made before a Parliamentary Committee, they held certain views on who the users of the Museum might be, and this meant that the Museum communicated its meanings in particular ways. Their vision of the Museum was of a place where people could improve themselves, not only by learning from the materials but from the institution itself. As a result, the BM transmitted a vision of civilisation not just through the materials in the collection, but also via the expectations of what visitor behaviour within the institution would be.

Through a close examination of the collection development at the BM during the nineteenth century, I will show how it is possible to distinguish a pattern of assertion of the

identity of the British Empire, which spread as collectors and explorers ranged across the globe as part of the Imperial expansion project. The collection, which began with Hans Sloane's cabinet soon grew to include Classical and Egyptian antiquities as well as samples collected during voyages to the Americas, Australia and New Zealand. These objects were collected, recorded and catalogued in a particular socio-political context, and as Chapters 5 and 6 will show, this context influenced the way significance and meaning were associated with these objects before and after their digitisation.

3.2 Institutional Profile

'For the first time in history it is now possible to be a museum for the whole world.' –
British Museum, Towards 2020 Strategy Document

The British Museum has been explicit about its universal aspirations since the very earliest days of its existence (British Museum, 2003 p.6) and has always had a global focus, choosing to collect of the world, for the world (Hughes, in Knell et al (eds), 2011: p.200). In the two centuries since then, the Museum's purpose may have changed very little, but the profile of who comprises that world has. In this chapter, I will look back at the Museum's past identification of their audience order to try and understand how this has influenced the Museum's current presentation of self. In turn, this chapter and the subsequent one will look at the influence this identity has had on choices the Museum has made concerning the digitisation of its material. Over three sections, which use the Museum's foundational values of public access, universalism and scholarship as a framing, I will show how these values are still key to the way the Museum has approached the digitisation of their collections and catalogue. Firstly, a brief history of the Museum, using primary and secondary sources, will look at how public access to the galleries, library and later to digital content at the Museum have been managed and facilitated, from the foundation to the current day. This historical approach allows me to trace the development of the Museum's self-defined audience from foundation to the present, and see how this has manifested in its digitisation activity. This lays much of the groundwork for the analyses in Chapters 7 and 8. Secondly, I will show how the Museum's relationship and position within the networks of the British Empire shaped its universal character and the way it positioned itself as a source of knowledge in and of the world. These perspectives have continued to influence the way the Museum presents itself online, and will set the scene for the more detailed examinations in Chapters 5 and 6. Finally, I will show how the Museum's understanding of itself as a place of scholarship framed the way the Museum considered their primary knowledge organisation tool - the catalogue, and has

impacted on the ways in which it has approached the catalogue and record digitisation. In conclusion, I will argue that the Museum's past is a crucial factor in helping to shape the way the Museum approaches and uses technology and simultaneously a significant constraint on the ways in which the Museum is able to evolve in the face of an increasingly digital future.

From the outset, this research approached the BM as a site which embodies seemingly contradictory conditions. On the one hand it is a truly global institution and a museum of the world. The approximately seven million objects in the collection cover the history of most human cultures of the present and the past. In 2014/15 over 6.7 million people visited the Museum in person and an approximate 33 million visited the website (The British Museum Report and Accounts for the Year Ended 31 March 2015). It toured and loaned objects to 107 sites, making parts of the collection available to audiences around the world. In 2015 it hosted special exhibitions about Celtic culture, Ancient Egypt, Indigenous Australian culture and Ancient Greek art. On the other hand, it projects an air of being undoubtedly 'British' - situated in Central London with a history that is closely tied to the area, it is technically owned by the British people and overseen by Parliament. In 2015 it received £40 million as grant-in-aid from the State, and was the most visited attraction in the UK.

How can one institution reconcile these incongruities, which sit directly at the heart of its activity? This chapter explores the idea that, for historical reasons, the universality of the British Museum's collection, and the freedom of access to it are connected to a particular notion of Britishness that, surprisingly, has changed very little over the 225 years since the Museum was founded, and which still inform the present-day practice, and the Museum's digital planning for the future. Evaluating how this identity has influenced the way the Museum approached the digitisation of their collection, and the way it deploys these digital assets, requires an understanding of how this sense of Britishness developed and was inculcated. This identity, I argue, has been constructed via the inclusion and omission of materials and by certain aspects of the documentation, resulting in a matrix of objects and records where the gaps left by these omissions speak as eloquently as those items which are included. I will show that this is mirrored in the digital collection, by examining a small sample of materials available to the casual browser on the British Museum website.

This section raises questions of authenticity and authority and whether digital surrogates of objects can be said to transmit a sense of Britishness at all. In an attempt to answer this, I will examine how, in planning its digitisation strategies and developing a digitisation policy, the Museum has approached their digitisation planning and balanced mass and critical digitisation approaches in order to negotiate volume and quantity of the digital content. Do the digitised collections reveal an approach that favours a large mass of digitised

material or has the Museum chosen to emphasise the value of smaller collections of more complex digital content and which identities are transmitted by these approaches?

This chapter and the following one, draw heavily on several histories of the Museum, some written by former staff and others by researchers, which are hosted on the Museum's website as part of their Occasional Papers research series¹⁵. Derek Cash's *Access to Museum Culture: The British Museum 1753 – 1836* (2002, British Museum Occasional Papers no. 133¹⁶) considers the attitudes and practices of the trustees and officers of the Museum during the eighteenth century, and provided useful analyses of the readers and visitors who frequented the Museum, as well as a record of public and government opinion regarding access to the Museum library and galleries. Using Habermas' theories of the development of the public sphere, Cash shows how, during the period in question, the British public and in particular the educated, middle class residents of London, began to expect a level of access to the Museum which was initially at odds with the views of the Trustees (Cash, 2002: p.7).

Marjorie Caygill has published several volumes on the history of the Museum, four of which I have consulted extensively – *Treasures of the British Museum* (1985) *The Story of the British Museum* (1992) *Building the British Museum* (1999) and *The British Museum: 250 Years* (2003). Caygill's histories are highly detailed and present the chronological development of the Museum, its collections and architecture using a great deal of archival material. However, they do not offer any significant analysis or critiques of Museum policy or activities in the past or the present - they are histories written from within the institution.

Also written from the inside are former Museum Director¹⁷ David M Wilson's two books. The first, *A History* (2002) was published as part of the Museum's 250th anniversary celebrations, and traces a chronology of the Museum from the founding to the time of publication. It details the development of the collections, the changes in staff and curatorial departments over the years, and the challenges of maintaining the Museum's site, which was almost immediately too small to house the collections, and needed constant repair (p.26). It contains a great deal of biographical and historical detail about the buildings, personalities and political wrangling required to keep the museum open in the early years. Wilson also examines the relationship between the library and the collections, including the consequences of the British Library's move to St Pancras, and provides details about the challenges of

¹⁵<https://web.archive.org/web/20160926163119/http://www.britishmuseum.org/research/publications/research_publications_series.aspx>.

¹⁶<https://web.archive.org/web/20160926163250/http://www.britishmuseum.org/research/publications/research_publications_series/2002/access_to_museum_culture.aspx>.

¹⁷ 1977 – 1992.

fundraising and the Museum's role in international relations. Again, the historical content of this books has been extremely useful, but as one might expect of a history written by a former director, the critiques are limited to policies long since abandoned. Wilson's second volume, *The British Museum: Purpose & Politics* (1989) is much more outward-looking. Published as a response to the government's cuts in funding which mooted the introduction of admissions fees (Anderson, 1998: p184), this book, although slim, provides useful insights into the way the Museum saw itself and its role in British society at the time. While much of the book can be read as a justification for certain decisions, and as a plea to the British government for improved funding, a close reading offers useful detail about the day-to-day running of the Museum, and its objectives . On the whole, while the histories provide chronological detail there is little in them which is critical. Thus, in the research for this chapter, it was necessary to look further afield and combine commentary from outside sources with material published by the Museum, as well as archival sources.

3.3 Enlightenment and Access: Finding an Audience

'The British Museum is an Enlightenment ideal. Its Trustees are responsible for making it, in each generation, a continuing reality' – The British Museum: Beyond 2020.

'It [the British Museum] was to be not so much a public museum but a private museum of every citizen, a key instrument in achieving the Enlightenment dream' – Caygill, M. *The British Museum, 250 Years* p.3

The British Museum's Enlightenment origins and its embodiment of the values of that era is a trope frequently used by the Museum in its official documents, press interviews, authorised histories and publications. While these ideals are rarely defined in these public pronouncements, the frequency with which they are referenced can leave the observer assuming that they are analogous for the Museum's definition of itself in the 225 years since it was founded. This language is also evident in the Museum's framing of its engagement with technology and global audience in the future, as articulated by Chris Michaels, the Museum's former Head of Digital and Publishing:

'The Museum's Director (Neil MacGregor) asked the question, what's the museum for? It's a place where the whole world could get access to the whole world. Well, that's a brilliant 18th century enlightenment dream but it has never been possible... Now, you combine that enlightenment dream with what the internet can do and actually, sometime in the next 20 years, the reason that the British Museum was founded

becomes possible for the first time... we should fulfil that 250 year--old dream and take the history of mankind to all of mankind.' (Michaels, 2015)

This question of access and the conditions for it are the focus of this section. I will show how there was a dichotomy, in the early years, between the enlightenment values and the day-to-day practice and realities of serving the various distinct communities who used the Museum. Over time, this division was resolved in favour of free, universal access - barring a brief period during the 1970s when the Museum charged for entry.

As a result of self-identifying as universal, the Museum has historically shied away from defining exactly who their imagined audience is (Griffiths, 2010: p.361 and interview). This reluctance to address the tension between specificity and universalism can be read as consistent with the Museum's history as an imperial institution, which positioned it as the authoritative voice situated at the metropolitan centre. However, universalism in the internet era can have unintended consequences – if, as Michaels suggests, the Museum's objective is to reach billions of people, it raises the question of who it imagines will be accessing the collections. A global audience is not homogenous, and this almost certainly guarantees that the new audiences accessing the collections will not always agree with the way the Museum has chosen to interpret and present objects in the collection. This raises the issue of how appropriate some of the Museum's documentation and presentation is, and will be a subject which the research returns to several times over the course of the following chapters. Without a clear picture of who their audience is, it is difficult to imagine the Museum achieving the universal relevance they aspire to. Paradoxically, it is the Museum's efforts towards becoming more of an enlightenment institution by building new ways to attract and sustain an audience which simultaneously produces the tensions it must manage (Barrett, in Witcomb & Message, 2015: p.93).

The Museum's universalist vision has its origins in the principles that informed its foundation – when Sir Hans Sloane bequeathed his collection to the British public. The vision outlined in Sloane's will was of a museum which would be a source of learning; free to access and broad in content (Caygill, 1981). Unlike other European museums, the British Museum did not emerge out of a royal or aristocratic collection. Rather, it grew out of Sloane's cabinet of curiosities, amassed by him over the course of his career as a physician, entrepreneur and finally, gentleman of letters. Sloane, who was of relatively humble birth (MacGregor, 1994: p.11) understood the power structures of eighteenth century England (Caygill in MacGregor, p.45) and used his collection and the publications he based on it as a mechanism to distance himself from the day-to-day work of being a doctor and businessman and establish himself as

a liberal gentleman of learning¹⁸. His 1695 marriage to Elizabeth Langley, heiress to a Jamaican sugar fortune, gave him access to the colonial land and slave owning classes, and cemented his position in London society, as well as providing him with the means to expand his collection to the point where it became invaluable (Hunter, Walker & MacGregor, 2012: p.40). When he died, Sloane's will specified that his collection was to be offered to the King and the nation for the sum of £20000. Were this not to be accepted, it would then be offered to the Academies of Science of St Petersburg, Paris, Berlin or Madrid on condition that the collection remain intact. As it transpired, the King was reluctant to provide the sum, and it had to be raised through a public lottery (Ibid: p.10). This was not without scandal, and although the lottery was able to raise the funding needed, it helped to establish the Museum, as James Delbourgo puts it: 'indeed a British Museum...a temple of the arts and sciences, with its promise of scholarly and practical enlightenment... erected on the basis of a private fortune, a vast web of imperial connections, wrangling over money and the national addiction to betting' (Delbourgo, 2017: p.316).

As Watson and Sawyer (2011) point out in their survey research on national museums in Britain, the founding of these institutions on the whole owes less to the British state, and more to the wealthy aristocrats and members of the middle classes who donated their collections, effectively coercing the government of the time into facilitating the foundation of the institutions (2011: p.99). They characterise the state's policy in the eighteenth century towards the arts in general, and museums in particular as being one of indifference (p.100). The British Museum was no exception: the canny conditions of Sloane's bequest ensured that the collection, if it were to remain in England, would have to remain complete, be accessible free of charge, and have to reside in a public trust (Watson & Sawyer, p.116). It was to be governed by a group of Trustees carefully selected by Sloane for their public positions and their ability to lobby the government of the day, as well as to give a certain scholarly direction to the museum. Sloane specified a combination of parliamentarians, antiquarians and churchmen to make up the forty-one Trustees, many of whom had shared interests in the colonies, the Foundling Hospital and the Royal College of Surgeons, and the Society of Antiquaries (Goldgar, 2000: p.200). This ensured that the governing body of the Museum was able to draw on the resources and support of Parliament at short notice (Ibid: p.118). This web of interconnected interests helped shape the character of the Museum's activity for

¹⁸ See *Curiosities, Commodities, and Transplanted Bodies in Hans Sloane's "Natural History of Jamaica"* by Diana Kriz Kay for a more detailed explanation of how seventeenth century physicians used publications as a means of access to an international community of literati. *The William and Mary Quarterly*, Third Series, Vol. 57, No. 1 (Jan., 2000), p.35-78.

several years, assuring both the public and learned nature of the British Museum from the outset (Caygill in MacGregor, 1994: p.50) and its close ties to the political establishment.

The Museum was formally established by an Act of Parliament in 1753, but it only opened its doors to the public in 1759. During the intervening six years the Trustees and appointed Keepers were occupied with organising the collection, remodelling the premises at Montagu House and writing the statutes and rules which governed the Museum, a process for which there was no precedent in Britain at the time. Anne Goldgar points out that during this period it was not taken as given that private collections would become public displays. The case of the British Museum had an added political slant, since the close ties between the Museum and Parliament meant that however the Museum decided to define its public would suggest that this was how those Trustees who were also part of government imagined their public to be constituted (p.200). Sloane's will did not offer much in the way of guidance – while it was specific about how the Museum was to be established and governed, it was much less explicit about the definition of the public for whom he intended it:

“And I do hereby declare that it is my desire and intention that my said museum or collection be preserved and ... that the same may be from time to time visited and seen by all persons desirous of seeing and viewing the same under such statutes, directions, rules and orders as shall be made from time to time by the said trustees... that the same may be rendered useful as possible, as well towards satisfying the desire of the curious, as for the improvement, knowledge and information of all persons and it is for this purpose I hereby reposed a sincere trust and confidence in my right honourable trustees...” (Last Will and Testament of Hans Sloane)

In reality, access to the collection in the early years of the British Museum was tightly controlled and limited to a well-connected few, reflecting the influence of the original Trustees' attitudes towards the working classes of London on the early admissions policies¹⁹. This dichotomy and disagreements over how to facilitate access, while at the same discharging their curatorial duties was a frequent concern for the men²⁰ who managed the

¹⁹ These limitations might also be read as a consequence of the early inextricability of the Museum and the Library. Access policies needed to reflect the blended reality of the collection; the Reading Room was, from the outset, a place of quiet scholarship, with access limited to those who wished to use the collection for study, while the galleries were spaces more oriented towards public viewing and entertainment.

²⁰ The historical record shows that despite the fact that Sloane's only children were women, the governance of the Museum in the early years was exclusively the province of men. In terms of admission, while children were banned, women were permitted access to the galleries and Reading Room, although usually in pairs, since there

collection. Curatorial concerns were, so they claimed, one of the reasons for limiting access to the collection to a small number of visitors. Citing concerns about the behaviour of the London crowds, and arguing that it was in the interest of keeping the collection safe, the original rules and statutes of the Museum, as drawn up by the Trustees, granted access to 'Learned and curious Persons' not all of whom were created equal:

'In Order to prevent as much as possible persons of Mean & low degree & rude or ill behaviour from intruding on such who were designed to have free Access to the Repository Viz. for the Sake of Learning or Curiosity tending to the Advancement & Improvement of Natural Philosophy & other Branches of Speculative knowledge & in Order to render the said Repository of such Use to the Publick as by the Act for that purpose was meant & Intended. That no person or persons whatsoever be admitted to inspect or View the Collections but by a proper Authority from the Trustees or one of them, or by their Order in General Meeting made for that purpose & under & Conformable to the further Rules hereafter mentioned.' (Statutes and Rules, 1759)

This statement hints at a reticence to explicitly articulate who the Museum should serve while making very clear who it does not. Rather than define who their public were, the Statutes created a barrier to access by being specific about those who should not have access to the collection. In contrast, in the the preamble to the document, the Trustees acknowledge the public nature of the institution, and their duty to provide access to the collection as a public good:

'This Museum being of a more general and extensive nature, than any other before established, may require some particular rules and restrictions for its management and security, suited to the manner of its institution... For altho it [British Museum] was chiefly designed for the use of learned and studious men, both natives and foreigners, in their researches into the several parts of knowledge; yet being founded at the expence [sic] of the public, it may be judged reasonable, that the advantages accruing from it should be rendered as general, as may be consistent with the several considerations above mentioned' (Ibid).

was a concern about the propriety of single women working among men (Cash, 2002: 5) and it wasn't until 1850 that a public lavatory for women was added to the building facilities.

While the anatomy of that public was not clearly defined, the Museum Trustees put various mechanisms in place which made accessing the Museum significantly easier for some members of society than others. At the time, the Museum's holdings integrated a library and a collection of specimens (which ultimately spawned the British Library and the Natural History Museum) as well as elaborate gardens on the site at Montagu House. This means that in our considerations of audience and identity in the early version of the Museum, we have to allow for the different levels of access to these spaces in addition to the galleries.

Restricted Publics

Derek Cash's research into access to the Museum and library between 1753 and 1836 shows how initially, the Museum used different mechanisms to restrict access to the different spaces. Visitors wishing to use the library were required to prove a personal association between themselves and a Trustee. Meanwhile, the rules which governed access to the galleries were broader, but still advantaged educated, wealthier individuals and disadvantaged workers and middle-class professionals (Cash, 2002: p.45). When it first opened in 1759, entry to the galleries required a ticket - which had to be applied for, in writing, in advance. This meant that anyone who could not read or write would struggle to apply (Ibid: p.44). Every application (for both spaces) also required acquaintance with a Trustee or officer of the Museum, who could vouch for the applicant. The daily number of tickets issued was limited and all gallery visitors were escorted through the collection by a Keeper (Ibid: p.43). This suggests that the early incarnation of the Museum, at least in the imaginations of the Trustees, still operated as a semi-private collection. The opening hours of the Museum were restrictive - in summer months it was open from 9:00am to 3:00pm and from 10:00am to 4:00pm in the winter. These hours were more suited those who were not in paid employment - scholars, or those with a private income who had the free time to visit during the day. Meanwhile the Museum was closed on Saturdays and Sundays, effectively barring anyone who worked during the week (Cash: 2002, p.45). The ban on fire of any kind in the building meant that it could only be open during daylight hours, making it inaccessible to anyone who wished to see the collection after finishing their work (Ibid). This had the effect of limiting access to a small group of privately wealthy people, who had the free time available to visit and use the collection and Reading Room. Cash's research shows significant overlaps between the personal networks of the trustees and the visitorship of the Museum during the late eighteenth century (p.34-57) and it is possible that this overlap is as much a reason for the exclusivity of access to the Museum, in conjunction with the limited opening hours.

Anne Goldgar cautions against seeing the restriction of access to the Museum and museum culture as a simple elite/popular tension and suggests that for those who were in positions of control over access to culture in the eighteenth century, the question about the proper dissemination of culture and the purpose of the Museum was a more pressing concern (Goldgar, 2000: p.199). In her formulation, the Museum consisted of a variety of spaces - the library, the galleries and the gardens; all of which served different (although sometimes overlapping) publics, all tightly controlled by those in charge and all sites of ongoing contestations over who should have access. Within these spaces, Keepers, librarians and other staff expressed ambivalence over the way non-studious visitors disrupted the scholarly activity taking place in the Museum, and which was considered by many, to be the primary purpose. This is exemplified in Goldgar's analysis of the Museum's grappling with the question of charging entrance fees (p.212-215). While bound, in spirit at least, to the wording of Sloane's will, the cash-strapped Museum debated the question throughout the eighteenth century. For some staff and public figures this debate hinged on defining a Museum public and creating or removing barriers to access. But as Goldgar points out, for many of the Museum staff, the argument against admissions charges was reputational - they believed that the value of the scholarly work which was conducted in the Museum would be damaged, and cheapened if access to the Museum was commercialised (p.213). In debates and votes in 1774 and 1800, this perspective was used alongside Sloane's will and the Museum Act as a means of keeping the Museum free to those who were connected enough to access it.

Goldgar argues that the idea of virtual enjoyment - the belief that those who were best able to profit from access to culture should have it, while 'a process of diffusion' (p.130) would allow value to ultimately trickle down to everyone else as well - shaped the way the Museum defined its public. Rather than benefitting from direct access to the Museum and the objects and books it held, those who were denied access would derive benefit from the research done by the learned men who controlled the access. Goldgar's argument is that for the lower classes culture, could only ever be experienced at a layer of remove (p.217). It was considered enough for the people to possess the Museum; the use of it should left in the hands of those who knew best how to use it.

By the early 1820s and 1830s, things were beginning to change. The Museum's popularity was beginning to undermine the exclusionary assumptions of the upper and educated classes (Sawyer & Watson, 2011: p.107) and there was increasing pressure to meet the demand for access from a wider public. In 1810, visitors who had gained access were permitted to wander the collection at leisure (Caygill, 1981) although tickets were still required, and anyone wanting a Reader's Pass for the library still needed recommendation

from a Trustee. A change in the demographics of those applying to use the Reading Room coupled with a growing sense of entitlement among the middle classes, who felt that they were paying for the Museum's upkeep but were denied access to it (Goldgar, p.195), added pressure onto the Trustees and staff to revisit their policies. Cash's analysis shows that in 1759 the majority of Readers were members of the Royal Society, and overwhelmingly male, propertied and educated. By 1830 however, more Readers were professionals, such as lawyers and physicians and clerics and even women and a few office workers were using the Reading Room (p.227). James Delbourgo argues that, by this point, museum-going was seen as the enlightened entitlement of modern bourgeois citizenship in the name of the public good (in Hunter, Walker & MacGregor, 2012: p.22) and this led members of the public to question the Museum's access policies and demand their rights.

In 1832 the *Penny Magazine* of the Society for the Diffusion of Useful Knowledge exhorted the public of London to go to the Museum and: 'Knock boldly at the gate, the porter will open it...you are come to see your own property. You have as much right to see it as the highest in the land' (Vol 1, 1832: p.13-14). The growing discontent also came to light in a series of open letters in various newspapers and gazettes and statements made by MPs in House of Commons (Cash: p.165 and Goldgar p.195). On October 14 1814, a disgruntled reader, who had been denied a pass to the Library wrote to *The Times* to ask: 'Is the [British Museum] Library to be for the use of those who keep the keys or for those who pay for the books? Is it to be public or private?' (Cash, p.1). In a Parliamentary debate in early April 1833, William Cobbett, MP remarked that 'those who had not decent dresses [and were therefore refused admission] were required to pay for the maintenance of the Museum... and, if they derived no benefit from it, they ought not to be compelled to pay for it... and it happened, too, that the hours during which it was open were just such as were most inconvenient to the labourer and the tradesman' (HC Deb 01 April 1833 vol 16 cc1333-43). Three years later library reformer Edward Edwards asked, in a public letter to the MP Benjamin Hawes 'whether or not a national museum or library can educate the ignorant more directly than by assisting the labours of the learned. If it can, its path is before it, and however extensively it may become the means of diffusing knowledge, it can never be the less able to help those who aim at extending knowledge' (Edwards, 1836 p.13).

Concessions and Condescension - the Hearings of 1835

The range of attitudes that the Keepers, assistants and other Museum staff held towards the public can be found in the transcripts and final report of a Parliamentary Select Committee which was convened in 1835/6 to enquire into the condition, management and

affairs of the Museum. With Goldgar and Cash's analysis as a framing, the tensions between universality and specificity, as they relate to access, purpose and publics emerge very clearly from the testimonies. This provides us with useful insights into the way those employed by the Museum defined their audience, interpreted their duties towards that audience, and saw the Museum functioning in society in general. The enquiry covered several key areas, including the composition of the Board of Trustees and the opening hours of the Museum and Reading Room. Keepers, Trustees and members of the public were called to give evidence.

Henry Ellis, then Principal Librarian, was questioned repeatedly by the Committee on a variety of topics, and his responses vindicate Goldgar's argument that the question of access was shaped by tensions between scholarship and entertainment as well as class. When asked if he thought the Museum might be of use in the 'improvement of the vulgar classes' he replied:

'I think the mere gazing of our curiosities is not one of the objects of the Museum²¹'.

In another set of questions pertaining to access to the Museum, he defended the practice of closing the Museum to the public for two days a week in order to allow artists in to sketch on those days by saying:

'I consider the utility of the Museum would be materially injured if the public were admitted on what are called private days.'²²

Ellis' limpet-like adherence to the idea that the Museum was best suited to use by a certain class of people was, however, in the minority.

The Reverend Josiah Forshall, who at the time was the Keeper of Manuscripts and Secretary of the Museum, was of the opinion that the objectives of the Museum included being 'a great national storehouse of materials for literature, art and science, and that its chief object is to assist persons engaged with any of those pursuits, but it is also important as a place of innocent and instructive amusement for the population of the metropolis²³'.

George Samouelle, a curator in the Zoology Department agreed, testifying that the behaviour of the public was as it ought to be in a Museum: 'The ignorant are brought into awe by what they see about them, and the better informed know how to conduct themselves. We have common policemen soldiers, sailors, artillerymen, livery-servants and of course,

²¹ Ellis, H. testimony to Select Committee, in Report From the Select Committee on the Condition, Management and Affairs of the British Museum with Minutes of Evidence, Appendix and Index. [A Facsimile of the Edition of 1835] p.19.

²² Ibid.

²³ Forshall, J. testimony to Select Committee, Report From the Select Committee on the Condition, Management and Affairs of the British Museum with Minutes of Evidence, Appendix and Index. [A Facsimile of the Edition of 1835] p.44.

occasionally, mechanics [...] I think the exhibition at the Museum will have a vast influence on the national character of Englishmen in general²⁴.'

John Gray, Keeper of Zoology testified that one of the objects of the Museum was to '...encourage a taste for science generally... to all who are desirous of studying it²⁵'. John M. Mathew, a lawyer and writer, argued that the Museum should extend its opening hours, not only for the benefit of professional men who needed access, but out of a sense of moral duty to the residents of London²⁶:

'Do you consider that on great public holidays, the collections... should be open to the public?

- I should say so.

Do you recommend that the Museum should be open on Sundays?

- I conceive that it should. I think that it would be one of the very best modes of counteracting the effect of the gin palaces.

Allowing the collections to be exhibited on a Sunday would in your opinion be one of the best means of improving the morals of the working classes?

- Yes, I decidedly think so.

It would tend to give them a taste for objects of natural history rather than a taste for gin?

- Unquestionably; it would be one of the best modes of improving the morals of the people.'

The internal drive to increase access to the Museum may seem, to contemporary readers, to be a democratising move. However, in the context of the time, access was bound up with both morality and the public nature of the Museum. By broadening their public, the Museum was able to execute its duty as part of a broader project of public improvement, while still allowing the national culture to be controlled by those who were judged to best be able to benefit from it (Goldgar, p.219).

²⁴ Samouelle, G. Testimony to Select Committee, in Report From the Select Committee on the Condition, Management and Affairs of the British Museum with Minutes of Evidence, Appendix and Index. [A Facsimile of the Edition of 1835] p.281.

²⁵ Gray, J. Testimony to Select Committee in Report From the Select Committee on the Condition, Management and Affairs of the British Museum with Minutes of Evidence, Appendix and Index. [A Facsimile of the Edition of 1835] p.237.

²⁶ Mathew, J, Esq. testimony to Select Committee in Report From the Select Committee on the Condition, Management and Affairs of the British Museum with Minutes of Evidence, Appendix and Index. [A Facsimile of the Edition of 1835] p.275.

The overall picture that emerges from the Select Committee hearings is of an institution which, over seventy years after it was first opened, was serving a variety of publics, all of whom had different expectations of the institution. A picture also emerges of a staff who had different visions of what the institution should be and to whom. It's hardly surprising, then, that the Museum defines itself as universal - it provides a useful catch-all category for a museum which in some ways is too big and has too much institutional history to be anything else. However, in the same way that critiques of the Enlightenment-defined public sphere highlight the hegemony and exclusivity which allows one group to claim universality and dominate (Fraser, 1990: p.62), the limits of the universal museum are thrown into stark relief, when we take a closer look at the principals underpinning them. As the next section will show, universalism, like access, at the British Museum was defined not by the publics it served but by those who controlled them, and that in fact, this has not significantly changed in the two hundred years since then.

3.4 The Imperial Museum

"The British Museum could never be restricted to British things, for to do so would set a limit to the reach of British power²⁷"

The previous section showed that when it was founded, the British Museum was an institution with close ties to the power structures in Britain (Watson & Sawyer, 2011;). This section will take a closer look at these connections as they existed during the imperial era (1815-1914) in Britain – a time during which the Museum's collections expanded significantly. While these relationships may not have been formalised in explicit state or institutional policies, as the empire grew, so did the opportunities for the Museum to take advantage of these ties - usually through personal relationships between the Keepers or curators and the explorers or military men who did much of the collecting (Beard, in Swenson & Mandler, 2013 p.54). In this sense, the BM manifested the type of exploratory power that Nicholas Dirks describes in the introduction to Bernard Cohn's *Colonialism and Its Forms of Knowledge*: 'Colonial conquest was not just the result of the power of superior arms, military organisation, political power, or economic wealth ... Colonialism was made possible, and then sustained and strengthened, as much by cultural technologies of rule' (1996: p.ix). Put another way, it was through access and proximity to the military might and global reach of the Royal Navy and the diplomacy and influence of the Foreign Office that the Museum was able to secure both the great collections of antiquity and the masses of ethnographic materials it holds (Sawyer & Watson, 2011: p.117). As a result, the BM played a role in defining the nation at both the centre and the margin of the Empire (Berger in Aronsson & Elgenius, 2014: p.13), was active in the movement of goods and knowledge between the two, and helped to shape people's perceptions of the cultures of both. As a consequence, the Museum helped to facilitate the transformation of 'the unknown into the known: that which could be collected, classified, categorised, and thereby commandeered and controlled' (Basu, 2012: p.145). These portrayals of culture and civilisation helped to shape the Museum's universal identity, and gave those visiting the Museum an 'other' against which to compare themselves.

While the Museum's collection of British material was scant in the early years (Petch, 2014), there was plenty in the collection to use as the basis of a definition of 'non-Britishness'. Recent scholarship in museum studies, however, is moving away from this dualistic arrangement of colonial identities, and takes a more relational view of the way colonialism impacted on the development of museum collections. Gosden and Knowles (2001) argue that

²⁷ Clunas, C. *China in Britain - the imperial collections* in Barringer & Flynn, 1998, p.43.

colonialism should be seen as a mass of small processes which had global effects, and rather than seeing colonial societies as bifurcated along coloniser/colonised lines, it should be regarded as one relational field of mutual influence (p.xix).

Using this framing, the focus of this section is, by necessity, a fairly narrow examination of how the Museum was a constituent part of the networks of power and influence of the British Empire and how it used these networks to develop its objectives. As I will show, the Museum's collections grew significantly as a result of these networks, increasing their ability to consolidate the collection and share the knowledge of the world to those who were able to visit. A rich body of work by historians, anthropologists and museologists exists which examines the relationship between the British Empire, its national museums and the colonised world. As a result, it was tempting, during this part of the research to turn the spotlight on the Museum's holdings, examine their provenances and open the discussion about repatriation, particularly in the light of the Museum's steadfast and very public refusals to consider discussion about the repatriation of objects, digital or otherwise. However, in this chapter, it is necessary to resist the temptation to be distracted by these important discussions, and to keep the focus on trying to understand how the British Museum's history within the networks of empire helped to shape its institutional identity and, by extension British identity, and how these are represented and transmitted by the Museum. This will feed directly in to the discussions in Chapter 5, 6 and 7, which examine the Museum's networks of objects, records and relationships, and draw relational lines between the Museum's networks online and the impacts these have on its identity formation and transmission.

Since its foundation in 1753, the collectors at the Museum were able to take advantage of the flow of antiquities and artefacts between Britain and the colonies during the period commonly known as the first and second British Empires (see Marshall, p.43-53 and Bayley, p.54-72 both in Winks, 1999). As the Empire grew, so did the scope of the collecting activities of museums all over Britain, and at the BM in particular (Bennett, 2004: p.2). The expansion of the BM's collections during the first half of the nineteenth century reflect two of the central public discourses of the period: citizenship and Empire, both of which were inseparable from the other (Coombes, 2006). During this period, we see the cementing of the triangular relationship between citizenship, nation-building and museums through the cultivation of a national culture and the musealisation of cultural production resulting in museums as a powerful site of national identity (Knell et al. 2011).

This was also the period, according to Wilson, when the Museum came under the influence of other European museums, which shaped the way the collections developed (2002: p.92). Linda Colley argues that during the period between the Act of Union in 1707 and the beginning of the Victorian era, British national identity was forged, and subsequently reinforced. This period was marked by an enmity with France, and Colley sees the development of an umbrella identity of 'Britishness' as a useful way of papering over regional divisions in order to turn a united face towards the French, who embodied the common enemy (Colley, 2005: p.17) and which prompted the development and growth of the collections of British antiquities in response to the continued expansion of the Louvre (Sawyer & Watson, 2011: p.118). Colley sees the establishment of national museums and art galleries as one of the ways the British state exercised this process of cultural reinforcement of identity. This idea is given credence by Steven Pincus' argument that British identity was, in fact, 'created in dialogue with European identity,' (1995: p.135) and that the development of the notion of 'Britishness' was in fact more of a broadening of English identity which subsumed the multiple identities based on language, religion and economic development which were hallmarks of the heterogeneous British state (Brockliss & Eastwood, 1997: p1).

If we look at how the collections developed during this period, we can see a series of linkages between the Museum and the networks of colonial power and influence. From the earliest days of the Museum, materials filtered in from collectors who were exploring the further reaches of the Empire, as well as Continental Europe, starting with Sloane's collection of Caribbean plant life. In 1772, the Museum had acquired William Hamilton's sizeable collections of Etruscan, Greek, and Roman antiquities, which included the Portland Vase. Hamilton had been the representative of the court of George III in Naples since 1764. From the start of the 1800s the volume and significance of the objects acquired began to grow - not least as a result of the Napoleonic wars. In 1802, the Rosetta Stone arrived at the Museum, along with other Egyptian antiquities acquired from the French under the Capitulation of Alexandria. In 1815 the Museum bought the Parthenon marbles from Lord Elgin, who had acquired them during his tenure as Ambassador to the court at Constantinople. In 1827 the Museum inherited Joseph Banks' substantial collection of ethnographic and botanical specimens, much of which had been gathered during his travels with Captain James Cook. In the 1860s the Museum's policy of sponsoring excavation abroad meant that Layard's Assyrian discoveries, Fellowes' Lycian marbles, Rawlinson's Assyrian sculptures and Newton's

discoveries in Asia Minor made their way into the collections²⁸. These explorers, Egyptologists and diplomats²⁹ were part of the structures and agencies of the British state, an arrangement which reflected the close alignment between the institution and the state. These men were members of the Imperial establishment, and their excavations, research and collecting work was done within the political frameworks of the Empire, and the resulting collections were informed by its political and social values.

As Astrid Swenson points out, parliamentarians and legislators of the Georgian and early Victorian eras tended to be well-educated men, particularly steeped in a classical education, which in turn influenced the tone of expansion of the Empire (2013: p.29). The classical world, she goes on to argue, was central to the self-image of the British Empire and to its sense of mission and understanding of the relationships between Britain and its dependent nations. Mary Beard acknowledges the influence of a classical education on the politicians of the time, but goes on to point out that this education would also have meant that British politicians were able to see themselves as both the colonisers of other territories and the subjects of Roman colonisation (in Swenson and Mandler, 2009: p.50). This, she argues, would have influenced how they saw their role in the Imperial project and how they set the agenda for the Museum. It may also go some way to explaining the initial dearth of British materials in the Museum, in favour of objects from Classical antiquity. However, Colley points out that patriotism was embedded in British public school education and attributes the steady diet of stories of war, empire, bravery, and sacrifice for the state, as well as Homer, Plutarch and Cicero's reminders of the duty to serve and fight, for the conflation of British and Roman imperialism in the national identity in the Victorian era (2005: p.226-7). Astrid Swenson sees this identity asserting itself in the British elite's desire to 'possess' classical literature and civilisation, which fuelled their appetites for the possession of people and their lands, but points out that this process was piecemeal, and less of a co-ordinated imperial project as we might otherwise believe (p.15). Hooch takes this further and sees the British Museum as a synthesis of the cultural state's British nature - he places the Museum right in the centre of the process by which the 'culture of power and the power of culture were interlinked in the shaping of the character of British public life' (Hooch, 2010 p.xviii).

Swenson traces the preservation of cultural heritage as a national concern in Europe to the French Revolution, when the Abbe Gregoire decried vandalism, declaring in 1794 that: 'Only Barbarians and slaves destroy works of art and science. Free men love them'(Swenson,

²⁸ For detailed inventories and descriptions of these acquisitions, see Mourdant Crook, J (1972) *The British Museum* Allen Lane and Hooch, H. (2010) *Empires of the Imagination : politics, war and the arts in the British world, 1750-1850*, Profile Books.

²⁹ Layard became a Trustee in 1866 and Hamilton was a member of the Royal Society.

2013: p.12). In her telling, the Abbe's statements gave European nations a way of linking preservation with civilisation, legitimising cultural plunder, particularly by their armies in Egypt during the Napoleonic wars, while at the same time enabling them to compete with each other, jockeying for the status of most civilised (Ibid). This framing, co-joining freedom, civilisation and an appreciation for art enabled colonial collectors to justify their activities, defining and selecting objects as having cultural value on behalf of the European metropolis. As a result, preservation became institutionalised, as the various states of Europe justified their imperial domination via the mechanisms of cultural heritage preservation. These arrangements point to a close relationship between imperial expansion, the development of national identity and the development of cultural heritage institutions in both the European metropolis and the colonial periphery. As the following section will show, it was through the intersections in this network of activity and a series of choices and investments in culture, that Britain became a cultural superpower.

One way these intersections manifested was in the fluidity of relations between the apparatus of the state (such as the Admiralty and the diplomatic services) and public institutions like the British Museum. For Hooch, this is evident in the speed with which important acquisitions arrived at the Museum in the early nineteenth century via the instruments of the British state. Egyptian objects were captured from the French in 1801 and 1802, and the Townley collections of marbles, terracottas and bronzes were purchased via a petition to Parliament in 1805³⁰, the Temple of Apollo was acquired by the Museum in 1815 and the Parthenon Marbles in 1816. These acquisitions, argue both Hooch and Swenson, fed into the growing popular demand for antiquities and the patriotic impulse to wage war by cultural means (Hooch, 2010: p.208; Swenson in Swenson & Mandler, 2013: p.13).

In the case of the British Museum, artefacts made their way to London not simply as spoils of conflict or direct purchase but by what Hooch characterises as a complex network of overlapping public and private channels, which, he argues, were the result of how the state and the arts (or, to use the more current term, the heritage sector) interacted in Imperial Britain (2010: p.208). Diplomats and military commanders increasingly saw cultural heritage in general and the British Museum in particular as mechanisms for asserting national pride, and filling the galleries of the Museum became a way of manifesting and encouraging this pride (Swenson, in Swenson & Mandler, p.18). This triangular transactional relationship between the Imperial state, colonies and the British Museum is strikingly evident in the activities of certain British governors in India, who saw their official role as including a duty

³⁰ HC Deb 05 June 1805 vol 5 cc170-2, accessed from
<<http://hansard.millbanksystems.com/commons/1805/jun/05/petition-from-the-british-museum>>.

towards preservation, and they used the rhetoric of preservation as civilisation as a justification for stewardship of the jewel of Britain's empire. In 1862 Viceroy Canning argued that: 'Neglect of the care of ancient monuments will not be to our credit as an enlightened ruling power.' His successor Lord Lytton saw the care of national antiquities as 'essentially an imperial duty'. Lord Curzon, who in 1900 stated 'It is equally our duty to dig and discover, to classify, reproduce and describe, to copy and decipher, and to cherish and conserve' established the role of Directorate-General of Archaeology in India, expanded the official budget for preservation and oversaw the restoration of the Taj Mahal (Ibid: p10-13).

Empires Classical and Contemporary

National museums are a badge of achievement, and use the scope, breadth and contents of their collections as a mark of the status of the nation as well as the importance of the institution. Benedict Anderson (2006) saw them as a necessary product of the nation state - and since the mid-nineteenth century, museums have been the institutions which feed the way the state imagines its domination, via the museum's legitimisation of ancestry and the past (p.178-185). Rather than being the detached collector and curator of history, the museum, as Anderson sees it, is thoroughly political creation. Through the processes of recovering and recharging the past, it creates a grammar by which the nation is able to describe itself. This grammar is notable because of the deliberate omissions and inclusions which are inherent - the binary distinction between those who have history and those who do not. Anderson's argument focuses on the museums which emerged in colonised states during the mid-nineteenth century, but it is equally relevant to this work - during the period Anderson describes, the British Museum was not only benefiting from the spoils of the colonies, it was also redefining itself as an institution of Empire through its collections.

As the Empire grew, so did the scope of the collecting activities of the BM. When the Museum first emerged out of Sloane's cabinet, the objects reflected his tastes and interests, borne out of his time in the colonies of the Caribbean, and his perspectives as part of the colonial administrative class. Sloane collected several objects related specifically to slaves, particularly those which told of the violence of slavery. These included 'a barbary Scourge with which the slaves are beaten made ...[from] a palm tree'; a 'noose made of cane splitt for catching game or hanging runaway negros'; a 'bullet used by the runaway Negros in Jamaica'; a 'coat of the runaway rebellious negros who lived in the woods of that Island'; and, finally, the manatee strap 'for whipping the Negro Slaves in the plantations.' (Delbourgo in Walker, MacGregor & Hunter (eds, 2012: p9-24) This last object was displayed for many years in a London coffee house. These would have sat alongside hundreds of natural history specimens,

coins and medals, minerals, South Sea artefacts, books, manuscripts and Egyptian, Classical, Medieval and Japanese antiquities. This collection was huge, and according to Carl Linnaeus, who visited the cabinet in London, was 'incomparable, and in complete disorder.' (Wilson, 2002: p.12-13). While it may have been large and eclectic, Sloane's collection was not of national status - it was too haphazard. It took the addition of the Cotton library of manuscripts (which included Magna Carta) and Harleian library of manuscripts to enable the formation of the backbone of the Museum's Library, but the time and effort needed by the early curators and trustees to order and arrange this formative set of objects meant that the collection did not grow significantly in size or importance for a few years. This growth, when it did start, was not indiscriminate. Rather, the British Museum became a space where the expanding British imperial state and the assertion of this identity were realised in material form, as evidenced by the collecting activities which reveal an interconnected relationship between the State and the Museum, and a distinctive pattern of empire building through both culture and conquest.

As Britain's position as a global superpower increased in the Victorian era, so the Museum's collections grew, but the emphasis on classical antiquities persisted (Wilson). The twenty-third edition of an early guidebook *A Synopsis of the Contents of the British Museum*, published in 1824, shows how the collection grew via the acquisitions of other collections, notably the Townley collection of Greek and Roman antiquities in the early 1800s (Combe, 1824). What is notable in its absence is material from Britain itself – it was not until mid 1860s, a good hundred years after the Museum was founded that British antiquities were actively acquired by Augustus Wollaston Franks (Wingfield in Knell, 2011), who was appointed as Keeper of British and Medieval Antiquities and Ethnography in 1866. In the forty years of his keepership, Franks is credited with reshaping the identity of the Museum, and modelling it as a museum of world culture. Wingfield sees this new direction as a process whereby the museum began to develop a sense of a British self, set in relation to the predominant other of classical Greek and Roman antiquity. This assertion of a sense of self allowed the Museum to take a position at the centre of the emerging field of prehistoric and archaeology and ethnology, with a sense of national identity which had not been reflected in the collection until this point (Ibid: p.123).

Rather than set British history in contrast to classical antiquity, the Museum was able to include British and European history into their vision of representing civilisation. In 1860, the Department of Antiquities was divided into two, and Classical Antiquities were separated

from Oriental Antiquities (Caygill & Date, 1999: p.38). Chris Wingfield³¹ argues that this bifurcation implies that the establishment of the new section was an indication that objects from other parts of the world were beginning to emerge in the collection, and the Museum was beginning to locate these objects and the societies they represented within their encoded notions of civilisations (in Knell et al, 2011: p. 127-27). There is, however, also the possibility of seeing the split as a signal by the Museum that it made a distinction between ‘civilised’ (European) and ‘non-civilised’ (Non-European) antiquities - while ethnographic material, regardless of age, was kept in an entirely separate class. If, as Susan Pierce argues, all collections reflect the values of the time in which they are collected and transmit collective meaning (1992: p.5) then the early collections of the British Museum convey a very particular set of values of nineteenth century Britain, which considered cultural heritage akin to civilisation, and valued the classical over the contemporary. Selection, says Pierce, lies at the heart of collecting, and it is this act which involves a view of inherited social ideas of the value of the collection. As will be explored in detail in Chapter 5, selection elevates ordinary objects into an object of value in a museum. Viewed through this lens, the selection of materials with a focus on Greek and Roman antiquity, natural history, mineralogy and numismatics reflected the values of the era - ethnography was limited to the classical world and the national narrative of Britishness was eschewed in favour of the identity discourse of civilisation.

An examination of the language used by the Museum in the early 2000s shows that some of the tone of the nineteenth century can still be heard. As discussed in the Introduction, the Museum was one of the signatories of the *Declaration on the Importance and Value of Universal Museums*, which commits it to the protection of antiquities from various threats, including ‘nationalist identity politics’ (Cuno 2009; Bienkowski in McCarthy (ed) p.431-444). While there have been many critiques and tests of this document written by professionals and scholars in the museum world (see Morris, 2003, Abungu, 2004, O’Neil 2004, Curtis 2006, Greenfield, 2007) however, for the purposes of this Chapter, the focus must remain narrow. The wording of the Declaration implies that the central issue is the debate over whether the British Museum and others should keep their collections of Greek antiquities in the face of calls for repatriation. However, this deflects attention from the underlying assumption by the signatories that Greek sculpture has a universal significance beyond Europe and the USA, since none of the Declaration signatories are outside of this zone. This betrays a conception of the development of culture and aesthetics which sees the Mediterranean world and Europe as

³¹ The 1870 “*Handybook of the British Museum*” by T Nichols, then a Senior Assistant in the Principal Librarian’s office devotes 144 pages to Egyptian antiquities, 80 pages to Assyrian material, 116 pages to Greek and Roman artefacts and 14 pages to British archaeology, Medieval collections and ethnographical materials.

the centre and source of cultural significance, thereby relegating others. The tension is immediately evident – even as they claim universalism, the institutions named in the Declaration are revealing the specific colonial-era thinking which controls their perspectives.

As Neil Curtis puts it ‘Indeed, only if the European enlightenment tradition is seen as the apogee of human culture is it possible to see ancient Greek sculpture as being of significance to “mankind as a whole”’ (Curtis, 2006: p.121). When viewed from this perspective, the Museum’s assumption that it is the best arbiter of universal significance is revealed as being based on a set of aesthetic, social and museological values, the terms of which only it is capable of defining. This bias actually undermines the argument for universal museums since it presents a one-size-fits-all approach to cultural significance which assumes universality has only one manifestation (Bienkowski, p.439).

3.5 Conclusions

If social relations are mediated by material objects which are constitutive of identity (Prown, 1982, Dant, 2006, Miller 2007) then national museums like the British Museum are key sites for the development of a range of national identities and the validation of the state (Barringer & Flynn, 1998: p.42) and the institution has the influence to shape the interactions between the two. The BM’s overt identity and purpose is that of the universal museum, and at first glance the history of the development of the collections seem to corroborate this. However, if we consider these collections not as discrete, neutral assemblages of objects but as the meaning-laden result of the exercising of power within colonial networks, we can see a different arrangement emerging. These relationships, and their material results, provide useful annotations to the chronology of the role the Museum has played in the development of British identity. In this emergent pattern, the Museum can be situated alongside other important agencies of the colonial project, such as the East India Company, the Commonwealth Office and the Navy. While it may not have been as influential as these agencies, the interpersonal connections which bound these institutions together allowed the Museum to develop its collections while at the same time legitimised the cultural capital accumulated by these institutions on behalf of the State.

The picture which then emerges is of an institution attempting to define its audience by clarifying what Britishness was through collections of non-British objects. At the same time, as the Museum became increasingly accessible, and adjusted their sense of who their public was, it saw itself as part of a project of moral or civilizing improvement, which, as the Empire grew, became increasingly global. Objects representing cultures from within the Empire and beyond were presented as having been civilised through their inclusion in the

collections. Meanwhile the reluctance to document national narratives of Britain may have been influenced by the fact that the Museum and the collectors who contributed to it saw themselves as providing the stamp of civilisation and rationality. Through the mechanism of wider public access³² (in part motivated by public demand) visitors to the Museum were inculcated with a sense of what Britishness might be, as defined by the objects in the collection. This chronology leaves us with the question of whether the Museum's assertions of its universal status still stems from a sense of promoting civilisation as well as being mechanism for deflecting criticism (Delbourgo, in Hunter et al, 2012: p.22 & Hughes in Knell, 2011: p.193). The next Chapter will examine how these attitudes have influenced the Museum's articulation of its digital strategy, and look for moments of parallels or examples of divergence between the two.

Through a combination of historical records, museum documentation and the work of several historians of empire and culture, this chapter has ascertained that the British Museum had a significant role to play in the development of the notion of Britishness during the late eighteenth and early nineteenth centuries. This constructed identity was used as a means of rallying people in the United Kingdom behind a common identity during the wars with France, as well as cementing a sense of the British self which, through the various degrees of access provided to the Museum, aligned with the class distinctions of the time. This identity was also closely bound with culture and presented Britishness as a manifestation of advanced civilisation and national superiority. The Museum also functioned as a storehouse of cultural objects and cultural capital. Since it was managed by Parliament and Trustees and staffed by Keepers and curators who moved easily between the Museum and the agencies of government, the BM benefitted from the porosity of the boundaries between government and the museums in England at the time. This facilitated the accumulation of a great wealth of materials which had aesthetic and scholarly value, but were also metonyms for the civilising power of Britain over her subjects and in contrast to other nations. To be British meant to be civilised, and therefore it was the Museum's role, as storehouse of the history of mankind, to educate all people of the world about themselves and each other, their shared pasts, and their futures. This moral responsibility was not only educational – the Museum saw itself as a place where visitors would be able to improve themselves, albeit within set boundaries which regulated the degrees of access considered sufficient for visitors of different social strata.

Over time, however, the Empire gave way to independent nation-states and these societies also understood the political significance of cultural heritage, particularly in the

³² Sir Henry Ellis' testimony to an 1841 Select Committee Hearing on National Monuments shows that visitor number grew steadily from 71 000 visitors per annum in 1829 to 247 000 visitors in 1839.

post-colonial context. As a result, the responses to the accumulation of cultural heritage objects and claims for restitution of materials and cultural equity have grown louder, and the Museum has been forced to reiterate and reinforce its status as a universal, rather than solely British institution, and have articulated their role as keepers of the collections in trust of all of humanity, which can be seen as a motivation for their mass digitisation. The following Chapter will show, through an examination of this work, the focus on volume (a large amount of digital content) over the detail of that content, allows users to interact with materials on a superficial level only, and implies that the Museum still prefers that the world come to Bloomsbury to see the collection, rather than truly taking Bloomsbury to the world.

Chapter 4: Aspirations and Reality: Digitising The Catalogue

4.1 Introduction

While the previous chapter was concerned with identifying how the Museum's past contributed to the emergence of an institutional identity, and how that identity has imprinted on the way its museological practice developed, this chapter shifts the focus to the present and the future. I intend to map the Museum's aspirations for a digital British Museum of the future against their actual digital activity in an effort to investigate instances of continuity or disconnect between the two. Through this reading of their digitisation activity, I also look for evidence of the Museum's adoption of the cultural turn in their museological and digital practice. This turn, as discussed in Chapter 2, is a method for reframing and reconsidering the ways materials in museums are presented, and could provide a means for the BM to achieve their universal aspirations. Parry argues that there is a pattern evident in museum computing projects which marks a difference between the rhetoric of the official record and publicity hype, and the evidence of what digitisation actually means for museum practice (Parry, 2007: p.139). He points out that in practice the disruption to museum work caused by the introduction of automation is difficult for museums to accommodate, with the effect that digitisation work in museums does not always meet the stated expectations or aspirations. With this argument as a starting point, along with the Museum's public framing of what digital activity might mean, the chapter will then consider the main digitisation activity at the British Museum over the last two decades and look for evidence which supports Parry's assertion.

The digitisation activity which informs the critical narrative for this chapter is the British Museum's catalogue digitisation project, which involved the transfer of the entire catalogue from paper ledgers, bound registers and card indexes into a database, which was later made available online. This process began in the late 1970s and is, to a certain extent, ongoing.

For the background research for this section of the thesis, I begin with an examination of the Museum's strategy documentation. To deepen the analysis, I conducted interviews with three staff members who were part of the original catalogue digitisation process and who continue to be involved in the day-to-day management of the Museum's database. I also spent several hours observing one staff member in the Department of Prints and Drawings who was checking the cataloguing of printed material which had been inputted by volunteers. This process of re-cataloguing is standard in the Museum when volunteers (who may not have the tacit knowledge of the curatorial staff) are the first point of digitisation. The process of cataloguing itself is a painstaking one, and involves the creation of records, and also of

authority files, and the building of connections between the two. While much of the work is done by volunteers, there is also a degree of expert knowledge required from the catalogue staff, in order to make certain technical entries (see Appendix E).

I was also able to obtain the internal report, made by the Collections Documentation Committee (CDC) to the Director of the Museum, David Wilson, in 1991, in which the case for digitising the collections documentation and the scope of the work were outlined. These sources, as well as the publicly available documentation created by the Museum show how many of the choices which shaped the digitisation process were influenced by the BM's foundational values of access, scholarship and universalism. By examining the digital assets produced, how the Museum manages them, and how they are presented online, I show how these values left traces and marks that can be read throughout the digital collection. These traces include the tension between fixity and fluidity, exemplified by the Museum's positioning of itself as the singular interpreter of meaning in their collections, even though they are presented in a technologically-enabled setting which includes the possibility of creating new relational links between digital assets and multivocal interpretations.

4.2 Towards 2020 - The British Museum's Strategy

'New technologies allow the Enlightenment ideal to be given a quite new reality. It should be possible to make the collection accessible, explorable and enjoyable, not just for those who visit, but to everybody with a computer or a mobile device. It can become the private collection of the whole world.' – Towards 2020: The British Museum's Strategy

As discussed in the previous chapter, there is a history of the British Museum's framing of itself as an institution with a universal scope. This was not only an internally-generated description; in 1770, library reformer Edward Edwards described the contents of the Museum in the following way: 'Its contents have come from the four quarters of the globe. It brings together the plants of Australia, the minerals of Peru, the shells of the far Pacific, the manuscripts painfully compiled by twenty generations in the labourers in every corner of Europe and the sculptures and printed books of every civilised country in the world' (Crook, 1972: p.197). In 1864, Robert Kerr wrote of it: 'We live in the era of *Omnium Gatherum*, all the world's a museum and men and women are its students' (1865: p.342). These sentiments are not dissimilar from the Museum's current self-characterisation in their public documentation, which describes it variously as 'A place where major issues of the modern world can be

explored and discussed in the light of the collection' and 'a space in which contested readings of history may be heard and discussed' (both quotes in *Towards 2020* the Museum's strategy document published in 2012) and 'the British Museum is a museum of the world for the world' (the Museum's 2014/15 Annual Report). Realising this global vision is becoming increasingly possible through the use of technology as a means of providing access. Any person almost anywhere in the world³³ with an internet-enabled device would be able to access the collections, a possibility of which the Museum is very well aware (*Towards 2020*, p.5).

The most comprehensive and up-to-date public source we have for understanding the Museum's aspirations and future plans is their strategic vision document. Titled *Towards 2020: The British Museum's Strategy*, the document outlines exactly that - the Museum's strategic vision from publication in 2012 until the year 2020. It was ratified by the Board of Trustees at a meeting on July 5 2012³⁴ and outlines the Museum's plans, including their intentions for the development of the digital components of the collection and strategy for engaging with audiences online. It also provides examples of the Museum's current articulation and interpretation of its principles and purpose. It's worth noting the risks of using the Museum's published documents as the basis for this enquiry - since official documents made public by an institution are likely to highly subjective sources (Rowlinson, Hassard & Decker, 2014). However, the 2020 strategy document is a publicly available official statement made by the Museum, and, as discussed in Chapter 2, this research makes a methodological point of using the public pronouncements of the Museum to patch together patterns of thought and behaviour.

The first section of the document, entitled *Principles and Purpose*, outlines the Museum's confident and all-encompassing vision of itself in no uncertain terms. It opens with the statement that the Museum is an Enlightenment ideal, and goes on to depict the Museum as the:

'Most comprehensive survey in existence of the material culture of humanity... [with an] international significance so great, it is hard to see how it can be considered anything other than a national responsibility, underwritten by Parliament' (p.2).

³³ Assuming there is no firewall or other technical restriction blocking access to content – for a deeper discussion on this subject, see Chapter 7.

³⁴ Minutes of the meeting of The British Museum Board of Trustees, July 5 2012, <http://web.archive.org/web/20160921092807/http://www.britishmuseum.org/pdf/Trustee_Board_Minutes_050712a.pdf>.

It goes on to contrast the Museum with its Continental counterparts:

‘The British Museum was the first national museum in the world. It was the first public institution to be called British - because it was not (like the continental museums) the collection *of* the King but a collection *for* the citizen’ (p.2, emphasis in original) and outlines the main purpose of the Museum both in the past and the present as being a ‘place of scholarly inquiry, taking place within a world-wide republic of letters.’ (Ibid)

The language used by the Museum leaves very little room for doubt over its universal intentions. It also makes an unequivocal appeal to British national pride – the ongoing global significance and status of the British Museum is associated with the State and vice versa. In her examination of the implicit identity transmitted through the materials published by the British Museum, Sarah Hughes makes the argument that its public declarations of universality should be read as a manifesto, placing a state-funded museum at the centre of a world of broad regions and global cultures (in Knell, 2011: p.193-203). Noting that the Museum frequently omits reference to Britain in many of its publications, Hughes concludes that the Museum’s choice of language is an attempt to legitimise its self-image. At the same time, the language transmits a subliminal political message of morality to visitors by presenting them Museum to them as a universal institution which embodies great potential for understanding the past and negotiating the future (p.203). Peter Aronsson argues that the fact that England is the only country in Great Britain without an explicit national museum structure is a demonstration of how a universalist approach, combined with the magnitude of the Museum’s collection enables identification of the national museum, negating the need for an explicit framework (in Knell, 2011: p.47). Both Aronsson and Hughes paint a picture of a Museum which is confident enough in its universal status to negate the need for a more explicitly defined public or audience. This picture is reflected and reinforced in the Towards 2020 document. ‘The world’ in this context, is specific enough.

The second section of the strategy document, entitled *The Museum Now* (p.3) describes the Museum’s current activities by providing an overview of the inventory of the collection and descriptions of conservation activity, staff numbers, visitor numbers, a funding overview and descriptions of levels of public engagement. According to the document, two million object records are available online, and the Museum recognises the need to increase this, and states their strategic intention to do so. The Museum also recognises that being

accessible to anyone with an internet-enabled device is ‘the greatest prize, and the central ambition’ (p.5).

While the statement above implies a commitment to the digitisation of the British Museum’s collections and collections data, and a general broadening of access to the digital collection online, only one of the eight strategic objectives which follow in the document are explicitly concerned with the provision of digital access to the Museum’s collection (p.5).

The gap between the discussion of digital activity and the details of what this may actually mean is one of the themes which Ross Parry highlights in his recent research into digital normativity in British museums (2013). In his comparisons of the BM’s digital activity and the way it discusses this activity publicly, Parry found that while the idea of digital activity has become increasingly important in the Museum’s descriptions of its day-to-day core activities (i.e.: normative) at the same time, less concrete detail about the digital activity has become available. He argues that ‘Across these reviews by the British Museum... we see digital gaining prominence in the institution’s expression of itself, but significantly (latterly), we also see this prominence becoming more diffuse and less differentiated’ (2013: p.29). This diffusion is evident in an interview from 2016 with the Museum’s Head of Digital and Publishing, Chris Michaels (Bloop online interview, 2016³⁵). Explaining the Museum’s plans for the future, Michaels discusses the potential uses of digital technology and social media as mechanisms for bringing more people to the Museum: ‘We want to get to 7 billion people with our message... We get about 45 to 55 million people a year to our website – let’s work out how to get that to hundreds of millions’ (p.3).

However, the details of what that actual message might be remain unclear. Social media, says Michaels ‘needs to be genuinely meaningful and engaging’ (p.5) but little detail is provided of what might characterise substance in this context. The interview touches on artificial intelligence, mobile applications and broadcast media as possible methods of providing access to the collection, but again, no mention is made of what access means, or how technologies are to be deployed in conjunction with digital objects or pre-existing scholarly material as ways of managing the existing narratives attached to museum objects. This absence illustrates what Parry points out in his article as being one of the risks faced by museums as they digitise - the continued framing of digital technology as being new or radical in museum settings. He argues that a proper discourse around the use of digital technology in museums can only take place when ‘we use a different set of assumptions, a different lexicon of terms, and free ourselves from discursive set pieces around uptake and advocacy’ (p.37).

³⁵ < <https://web.archive.org/save/http://www.bloop.com/features/british-museum-chris-michaels-digital/37680>>.

This position is echoed in Haidy Geismar's call for a new definition of the term 'digital' in the museum context (2013). She suggests reframing the assumptions implied by the term 'digital' by calling it 'the new analogue' - because the connotations of newness in discussions of digital is shaped by 'a general preoccupation with and escalation of digital projects, which increasingly overwrite not only older technologies but the metaphors that structure their meaning in our everyday discourse' (2013: p.255). Both Parry and Geismar highlight a problem in the development of digital strategy which can be seen in the British Museum's discussion and pronouncements: In the urgent quest to bring more people to their collections via the web, the ways in which access is provided and the intellectual and museological framing of these collections may actually make them less relevant or useful.

The third section of the document, entitled *Looking to 2020: The Museum of the Global Citizen* looks at the present status and the future possibilities for the Museum (p.5-9). In this section, the Museum reiterates and reinforces its global vision, with an added sense of moral certainty and assuredness in the value of the specifically universal British Museum. It articulates the Museum's vision of technology as a mechanism which will enable it to become the 'private collection of the whole world'. It locates the Museum as having a presence and responsibilities in London, the UK and the world (p.5-8) and states that '...the world needs new histories to make sense of the present' (p.7) while at the same time being explicit about the fact that that safeguarding this collection 'of the world and for the world' is a British national responsibility (p.5). By presenting their imagined audience as a global one, the strategy commits the Museum to enabling remote access via technology, sending objects out in travelling exhibitions and developing new representations of the non-Mediterranean world (p.6). However, by arguing that it is the British nation's responsibility to care for their collections, the Museum shows a blindness towards exactly the kinds of reflexivity they claim to be striving for. The subtext implies that only Britain can be trusted to care for the objects in the collections, and however distributed or remote the access to these collections might become, they are still imagined with the Museum at the centre of any network. In this arrangement, the Museum does not have to define Britishness, per se, because its central position places all other cultures as external, other, and therefore non-British. This analysis reveals the Museum as being both capable and willing to use the collections and access to them as a means of legitimising this position.

The notion of the contact zone, a conceptual, decentralised space where cultures can meet and grapple with the results of asymmetrical power relations (Pratt: 1991) has been taken up and debated with enthusiasm by museum scholars (see Witcomb & Message 2015; Witcomb, 2003; Clifford, 1997) including those who work in the British Museum (see

Hogsden & Poulter 2012a and 2012b) and will be explored in much more depth in Chapter 6. In the context of this chapter though, it is used as a comparative lens for conducting a critique of the dissonances between Museum's statements and their activity. If the contact zone is intended as a space for cultural encounter and reciprocity (Witcomb & Message, 2015: p.264) then evidence from the strategy document reveals that the Museum sees itself interacting with a global audience in a way which at the least maintains, (and possibly reinforces) the status quo. Any contact zones it aspires to create are based on the assumption that the Museum retains control of the interactions and is the definitive authority on what constitutes a museologically British identity. The reality of the Museum's current digital offerings highlights a significant disconnect: on the one hand, the picture painted by the strategy document is of a digital museum which allows those who may never visit Bloomsbury to have as fulfilling an experience as possible online. On the other, the Museum declares a purpose as primarily as a place of scholarly inquiry and behind-the-scenes scientific work. This dissonance is explored in the following examination of a small selection of items from the online collections.

4.3 Missing Links

When this investigation was undertaken, the materials which will be discussed were available from a section of the Museum's website entitled 'Highlights', and which presented a curated set of 5000 objects selected by museum staff for their significance. Since the initial research was carried out in 2014, this part of the Museum's site has been shut down, and the content moved to the Google Cultural Institute, as part of the Museum's partnership with the search engine. Following any of the links listed in the following section will result in the user being redirected to a 404 error page, with the message 'Page not found: The Explore section of the website has been removed. Highlight objects can be found on the Google Cultural Institute.' A hyperlink redirects users to the front page of the British Museum on Google Cultural Institute, where, at the time of writing, nine exhibitions had been mounted³⁶. Methodologically, this posed a problem for the research, since it is no longer possible to verify or recheck the data collected. After careful thought, it was decided to make use of both versions as a source for examination - the original pages, which can be accessed via links stored in the Internet Archive's Wayback Machine (WBM), and the Google Cultural Institute versions of the initial Highlights selections.

³⁶<https://web.archive.org/save/_embed/https://www.google.com/culturalinstitute/beta/search/exhibit?p=the-british-museum>.

Murphy et al's research into the validation of web-based sources tested the WBM's validity as a source for internet-based research using a variety of measures (Murphy, Hashim & O'Connor, 2008) and concludes that while there are some concerns about how the WM indexes some pages, overall it is a valid source and tool for research using archival web pages (p.70). Considering that not all of the collections described below exist as aggregations in the Google instance of the Museum's exhibitions, it seems doubly important to use these archived digital collections as a source for investigation, with the appropriate referencing. In order to access the pages, I used the version recorded in the Wayback Machine in April 2014, which is when the original research was conducted. While this scenario provides a functional solution which allowed me to rediscover and recreate some of the British Museum's web-based collections as a source for study, the more significant point is that it highlights the vulnerability of digital sources for scholarship. It also raises concerns about the continued availability of digital scholarly sources from the British Museum's digital collection, and the Museum's ability and willingness to provide access to these sources to a global community of researchers who are using digital means to access their collections.

4.4 Catalogues and Collections

Sheer magnitude makes a complete survey of the digital offerings of the British Museum difficult (over 2 million object records are currently available digitally). However, a close reading of a small section of this collection is one way to explore how the Museum has translated its universal aim of broadening online access and engagement into the digital versions of the collections. At the time of writing, the 'Explore' section of the Museum's website³⁷ was the main portal through which visitors could browse the collection online. An alternative route into the collection is via a search of the online research catalogues, eleven of which are currently available³⁸ on a range of topics, which provide access to images and records of over 20000 objects. The range of subjects gives some indication of the breadth of the Museum's collection, although materials from the ethnographic collections are relatively under-represented in comparison to antiquities. The catalogues consist of: African gold weights (2000 objects), Ostrogoth coinage (300 objects), Russian icons (72 objects), Cypriot antiquities (1794 objects), drawings by Rembrandt (392 objects), Roman Republican coins (12772 objects), paper money of England and Wales (1857 objects), Asante gold regalia (219 objects), The Ramesseum Papyri (174 objects) and Greek objects excavated from Naukratis in

³⁷ Previously accessible at <https://www.britishmuseum.org/explore.aspx>, this page is now only available on the Wayback Machine.

³⁸ https://web.archive.org/web/20160926163609/https://www.britishmuseum.org/research/publications/online_research_catalogues.aspx.

Egypt (2000 objects). The format of the catalogues is similar across all eleven - essays and photographs accompany each object and there is also an extensive bibliography in each. Clicking on one of the images in any of the catalogues takes the viewer directly to the object's entry in the database online, where the item is presented in the form of photographs, accompanied by the digitised record entry. In the catalogue, the assemblage of objects are supplemented by essays, maps, material and technique descriptions, bibliographies and other scholarly materials. However, while it is possible to link to the individual objects from the research catalogues, it is not always possible link back the other way: i.e.: to the research catalogues from the objects entry in the digitised records.

In his 2011 analysis of one of these catalogues R.J. Wilson used critical code studies as a methodology for evaluating the implicit meanings behind the Museum's use of web technologies. As a research methodology, critical code studies has grown out of the perspective of humanities scholars who argue that the medium of digital communication - namely computer code - should not be treated as a neutral or objective source (Kittler, 1995). Rather, critical code studies argues that code can be approached as a tool which frames and shapes knowledge in much the same way that literary scholars would apply post-structural methods to texts (Wilson, 2015). In his 2011 paper, Wilson examines the catalogue 'Ancient Cyprus in the British Museum'³⁹ and highlights how, despite appearing to offer the visitor greater access to the material in the catalogue, the structure of the web pages is in fact governed and organised by knowledge management infrastructures which are very similar to those found in traditional, material museums (Wilson, 2011: p.375). Specifically, he found that the Museum's use of HTML and other markup language 'can be regarded alongside the same heavily critiqued discourses that construct the object, texts, spaces and visitor experiences in the 'real' museum' (p.379). Both discourses force visitors into a structured experience, with little transparency about the steps or routes that led them there.

Since the Museum's use of HTML and markup are standard across its site, Wilson's findings can be extrapolated across all eleven online catalogues. All eleven provide similar highly-structured but non-integrated and sequential routes through the selected objects presented. Text is delivered in dense blocks, with few hyperlinks or embedded images to break it. Clicking on the link which directs the viewer to the assembled object's results in a pre-filtered online catalogue search. In this view, visitors are taken out of the catalogue and presented with lists of images and their records with no discernible narrative links between the objects and the catalogue text. Nor are there hyperlinks which could be used to return the

³⁹<https://web.archive.org/web/20160926163802/https://www.britishmuseum.org/research/publications/online_research_catalogues/ancient_cyprus_british_museum.aspx>.

visitor to the catalogue. This rigid structure has the result of leaving the visitor wondering what the intention of the online catalogues is, since it is an isolated and un-integrated silo of information in the greater network of the Museum's site.

As examples of how the Museum reconciles its scholarly mission with digital technology, the digital catalogues are both revealing and problematic. Are we to read them as one-dimensional examples of museum research dissemination? Such a reading may be possible, particularly considering the degree of expert knowledge which went into their production in the first place (Griffiths interview, and catalogue observation). But the digital versions of these catalogues are neither porous, integrated or accessible as routes by which to explore objects and any other, non-COL related scholarly resources on the BM's site. While the internal linkages between authority files and other records with the same information are strong, anything outside of the COL is difficult to access. What is certain is that the COL linkages direct the viewer through a set of scholarly resources, which, while of high quality, are, at the same time, fairly inflexible outside of their catalogue context.

In comparison, the next collection examined was more self-contained. Rather than looking for links between resources from across the Museum's database, such as online catalogue entries and object records, I turned to a smaller subsection of curated objects with custom-written, in-depth records, in order to see if they might provide more satisfying results. The Highlights selection⁴⁰ (now found on the WBM) can be read as a contemporary version of the 1870 *Handybook* mentioned in the previous chapter. It is an aggregation of five thousand objects, selected by the Museum and initially categorised by culture, people, place and material. In the material-world Museum, objects are arranged in galleries and described by civilisation - such as 'Europe 1400 -1800' or 'Early Egypt', but this is not replicated in arrangement of the Highlights objects.

In order to investigate whether and how this collection of objects might represent or transmit the British or universal identities associated with the Museum, I conducted a search of the collection by using a series of culture and place keywords. The search for culture ('Britain' and 'British') yielded three historical categories of objects: Tudor England (33 objects), Roman Britain (174 objects) and Bronze Age Britain (14 objects). The search by place was frustrated by the fact that 'Britain' is not an option in the search filters. However, England, Northern Ireland, Scotland and Wales are. Specifying 'England' yielded 874 objects, including Museum ephemera such as applications for admissions tickets, early photographs of

⁴⁰ <<https://www.britishmuseum.org/explore/highlights.aspx>> originally accessed April 2014, now available via the Wayback Machine at <<https://web.archive.org/web/20140703071624/http://www.britishmuseum.org/explore/highlights.aspx>>.

the galleries, prints, coins, Saxon and Roman hoard findings and other objects. Seven objects are marked as originating in Northern Ireland, a search for 'Scotland' resulted in thirty-two objects, ranging from Neolithic stone carvings to contemporary Scottish bank notes. A search for 'Wales' provided thirty-eight results, although it must be noted that some of the contemporary objects are duplicated in the English and Scottish search results. The total for objects originating in the British Isles was 1011.

As a point of contrast, a search using terms for three of the Museum's best-represented and most famous collections yielded relatively few objects: 'Egypt' as the place of origin resulted in 559 objects, 'Italy' gave 440 results and 'Greece' rendered 208. These searches are not exhaustive by any means, and the borders of contemporary nation-states do not always correspond with their classical progenitors. However, the initial impression is that many more objects from Britain were included in the digital Highlights collection - but on closer examination, it was found that many of the objects were ephemera.

Viewed from the perspective of the casual browser, there is something ultimately unsatisfying in the experience of exploring these collections of the Museum's materials online. In part, this might be due to the absence of context - unlike early guidebooks which contained drawings of the galleries and the objects in them, the objects in the digital collection can only be viewed as singularities, a flat photograph rendered on a screen, rarely associated with a map of the Museum, or with other objects that might surround it in the galleries. Scale is hard to ascertain - the image of a coin is rendered on the same scale as the image of a totem pole. While the images are high resolution, or high resolution versions are available, they are not rendered in formats which allow for zooming in to see detail. Many are presented as distinct or discrete, and links to related objects are limited. The sense of scale one has in the galleries is missing, as is the impact of seeing objects *en masse* in a space. As an example of mass digitisation, the fact that the Museum has uploaded two million objects makes for an impressive collection. In this regard, the British Museum has replicated some of the impressive scope of the collection in Bloomsbury, and although it has stated a desire to improve access via digital methods, the experience of looking at the objects online is in no way comparable to seeing them *in situ*.

Of course, providing access does not necessarily mean being required providing an experience which equates exactly to visiting the Museum. Research into the information-seeking behaviour of users of the British Museum online conducted 2011 highlighted the non-homogenous behaviour and requirements of humanities scholars (Terras, 2012). Ross and Terras subsequently showed that, among the scholarly users of the Museum's collection online, a distinction is made between visiting in person, for leisure, and visiting the COL for

research purposes (Ross and Terras, 2011). For Griffiths, there was no distinction between the informational requirements of the general public and the subject expert – the Museum strove to provide all potential users with access to the same, high-quality information (Griffiths interview 32.04). And the Museum's staff who were involved in the digitisation and day-to-day running of the COL see the audience for this resource as primarily a scholarly one, who value access to the information in the record (Stribblehill interview, 33.00).

Dahlström, Hansson and Kjellman (2012) make the case that there are two ends of the digitisation spectrum – mass digitisation and critical digitisation (p.461), and argue that mass digitisation has overtaken critical digitisation as the preferred method for cultural heritage institutions. They point towards parallels between these two types, and museum and library practice and argue that with libraries and librarians tend to be more concerned with the content of the books they digitise, since content is meaning, while museums focus as much on the materiality of the objects – based the museological principle that materiality, in museum objects, is where meaning is located. However, they also point out that digitisation strategies can be considered 'culturally constitutive and perhaps canonizing to varying degrees. In that sense, the overall digitization strategy chosen by a library institution embraces certain kinds, views, and levels of material at the expense of others, and favours certain user communities over others.' (p.465). Despite the difference in their approaches, it is possible to infer that the preference for some types or kinds of objects over others was at play in the Museum's digitisation as well, which reveal some of the Museum's own institutional traits in the digitised collection and how it is presented. In the next section, I will look more closely at the Collection Online (COL), for evidence of these traits.

4.5 Recoded: An overview of the history of museum computing

Although it is nearly a decade since it was written, Ross Parry's *Recoding the Museum* (Routledge, 2007) provides the most comprehensive history of museum computing in the United States and United Kingdom to date. And, unlike other histories which tend to describe the development of machine-led cataloguing systems (Sartori, 2015) Parry combines museum theory with an historical approach to the relationship between museums and computers from the 1960s onwards. In the book, he traces what he refers to as 'the story of incompatibility between... computers and the modern museum' (p.138) using historical narratives in combination with the framing of Manovich's characteristics of digital media.

Parry identifies two responses from the museum community to the development of early museum computing: the first response is characterised as being discontinuous and fractured and considered computers and automation as something to be suspicious of. The

second response saw computers (and digital technology generally) as a tool for encouraging necessary broad change in museums. Those who adopted this second response have, according to Parry, seen 'their role, function and provision re-evaluated and reshaped - let us say recoded - by this new technology' (p.139).

To say that the British Museum has re-evaluated its role, function and provision as a result of the advent of digital technology is probably to go too far, and the reports and scholarly papers written by staff involved in the digitisation work reveal that the suspicion and scepticism which Parry describes were a feature of the process at the BM. Despite the grandiose language used in the Museum's internal documentation when discussing the digital future⁴¹ there is little evidence to prove that the Museum undertook a rethinking of its purpose in the light of widespread digitisation. In fact, the timeline of digitisation at the BM corresponds with the pattern described by David Williams (in Parry: 2010) in which young museums focus on gathering objects, at the expense of the documentation, and those systems which do emerge are highly personal and subjective⁴². With little communication between departments and much of the knowledge about how information organised sitting in the personal memories or files of curators, it was not uncommon for museums to find themselves faced with large collections which are inaccessible as a result of inadequate record keeping systems (Williams, 2010: p.15). The technological solutions to these problems are, therefore, not necessarily created with the intention of being made public. They are seen as tools to help museums manage their daily tasks, a requirement that shaped the way the databases were initially designed. In the following section which focusses on the BM's decision to put the catalogue online will show, the electronic catalogue was initially imagined as an internal-facing project only, designed to provide a solution to the problems of collections management. Its development was driven by a handful of committed staff members, and was guided more by the Museum's adherence to their founding principles than by a drive to reinvent themselves and their collections using technology.

However, as museums are becoming increasingly willing and technologically able to connect and share their collections data (Parry, 2010: p.2) the question arises as to how appropriate these technological solutions are as a means of demonstrating and communicating a museum's knowledge organisation to the global public who are now able to

⁴¹ Parry cites over-promising on the possibilities of technology as one of the reasons why museum professionals were sceptical about computing in general (2007: p.117).

⁴² For an example of the emergence of a personal system of documentation which became the institutional standard at the BM, see Jill Cook's essay, 'A Curator's Curator: Franks and the Stone Age Collections', in Marjorie Caygill and John Cherry (eds), *A. W. Franks: Nineteenth-Century Collecting and the British Museum* (London: British Museum Press, 1997).

access it. Not because the public is incapable of using the tool but because the way the information is organised and structured reinforces certain museological perspectives which may not be acceptable to those who use the databases. Turner (2015) and Gibson & Kahn (2016) pose the question of how to balance the need for accuracy, interoperability and local historicity with the growing acceptance that records are not neutral and museums should approach their records reflexively, rather than reinforcing power imbalances through their documentation of objects (Ibid: p.44-45).

Parry (2007) characterises early experiments in museum computing as being focussed on automating the documentation relating to museum objects, rather than the objects themselves (p.15) and contrasts this approach with early computational forays in the library world. Library objects, he argues, tended to be more static - once the information on the front pages of a book had been added to a database, very little changed. In museums, on the other hand, the record was continually being updated 'as more was discovered about the history and meaning of the object' (p.23). This early acknowledgement of the need for ongoing revision and updating of objects and their records is significant as it set the technological and procedural precedent which enables museum records to incorporate the principle that of shifts in meaning, mutability and change are part of the lifecycle of the digital object, and which will be examined in detail in Chapter 6.

4.6 Reconnecting the Collection - Introducing The British Museum's Collection Online

The British Museum's Collection Online is the digital version of their full catalogue. As of September 2016, it contained over 2.2 million records which may be accessed online via the Museum's website, and is continually updated as more records are added every week. Originally designed as an internal tool to aid in collection management, the history of the how the database came into being provides a good example of how the Museum's technological development was guided by their founding principles of universalism, scholarship and access, and how these principles shaped the way the infrastructure of the database was designed and the content of the records contained in it.

The history of the database development also reads as a narrative of how the repository architecture and the digitised documents can be seen to convey the British Museum's version of the unassailable museological voice (Walsh, 2007), consolidating the Museum's role as the expert commentator, and their version of the narratives of objects as definitive. As has been mentioned in previous chapters, neither the act of museum collecting, nor the process of digitization are value free and the resulting assemblages of objects and documents can be read in ways that reveal the meta-narratives embedded in the digital

collections. However, the structure of the collections also contains stories and silences. These structural narratives can be read as another source for the development and transmission of the Museum's identity.

Susan Leigh Star urges scholars to examine the infrastructures which provide the backbone to any system we interact with as a means of better understanding workplaces and the materialities and interactions which occur in them (Star, 1999: p379). In the context of the British Museum, this means that in addition to examining the history of the database's development, it will also be necessary to examine the infrastructure of the database and the computer code which underpins the repository architecture and knowledge-management structures. These structural components are also sources which contribute to the overall identity which is transmitted to the viewer.

In order to show how this kind of reading is possible, and working from the understanding that no record is neutral, this section sets the history of the catalogue digitisation project at the British Museum against the backdrop of the history of museum computing in the UK generally. In this context, we will see that despite its position as the leading museum in Britain, computerisation of the records at the BM began relatively late, and was driven both by the need to solve a particular problem, and a desire to experiment with technology. Once begun, this process was shaped by the technical needs of the curators, the scale of the collection and the Museum's self-conscious understanding of its role as a place of scholarship. These same factors influenced the Museum's decision to put the records online. Once the timelines of these two projects have been examined, I will make a critical analysis of the way the database was designed and the way objects are linked in order to show that while the technical capacity to form new connections exists, it has not been fully exploited. The absence of these links has implications for the way the Museum displays the histories of certain objects and represents communities of origin. This has resulted in an online collection which manifests the same universal/specific tension that can be seen to run throughout this research. By claiming a universal perspective while positioning itself as the crucial interpreter of objects in the collections, the Museum has seeded its records with significant blind spots which act as mufflers of alternative narratives. This has resulted in the formation of an identity which imposes a particular viewpoint on the museum visitor and which undermines much of what is said in the Museum's statements about how it intends to use technology to create a future museum for the whole world.

4.7 History of British Museum Computing

The following section examines the history of the main digitisation activity at the Museum over the last twenty years - namely the development of the Museum's digital database, the digitisation of their collection records and their publication online. In it I shall describe how the Museum planned and executed the digitisation of their paper records, identify how and where in the process contingency played a role in the decisions which were made, and identify what impact this had on the digitisation. Using internal reports and publicly available histories of the project written by Museum staff, as well as in-depth interviews with Museum staff, both current and retired, I will show how the project was equally shaped by practical considerations (like access to computers and digital literacy) and institutional convictions. I will show that among those staff responsible for managing the Museum's internal documentation, several factors had a direct impact on how the digital version of the museum catalogue was created and the form in which it was made available online. These factors were: The Museum's history as a public institution, its founding principle of a commitment to accessibility and its sense of scholarly purpose. These three factors all inform the conclusion of this section, that the COL is a project which proves both Manovich and Parry's position that digital media (in this case the museum database) is transcoded - both formed and informed by the culture in which it is based (Parry, 2007: p.117; Manovich 2001, p.63).

At the outset, it is important to make a note about terminology. 'Digitisation' in this context refers specifically to the process of transferring museum documentation originally written on paper and kept in bound books, ledgers and registers into an electronic database. The Museum had been using computers to carry out carbon-dating and similar research in the Research Laboratory since the early 1970s (McCutcheon in Light & Roberts, 1986 & Wilson, 2002). But until the period described below, no use had been made of computers as an aid to curatorial activity or records management. The use of computers to manage the records in the British Museum began in the late 1970s in the Department of Ethnography, as an attempt to use a batch-processing system to locate register numbers (and therefore the provenances) of objects in the collection which had lost their identification tags (McCutcheon, 1986: p.132).

The objective was to extract descriptions from the hand-written registers which had been used to record all acquisitions at the Museum, sort the information electronically, and locate the missing numbers (Griffiths, 2010: p.2). According to Antony Griffiths (who was a Keeper in the Department of Prints and Drawings at the time and was one of the main staff members involved in the database development) the system did not work, because it was not sophisticated enough to make allowances for duplicate objects or the miscategorisation of

objects or any other of the contextual contingencies that arose (Ibid). However, the experiment in Ethnography did highlight the value and need for a museum-wide system to manage documentation, which until then had not been a priority:

‘Throughout its history, the Museum has recognised the importance of comprehensive documentation of its collections. Various documentation systems have come and gone, but a perennial lack of resources had inevitably placed the emphasis on the registration of acquisitions and similar fundamental tasks, to the detriment of the development of systems for the organisation, classification and retrieval of information’ (McCutcheon, 1986: 131).

Anthony Griffiths remembers the project being initiated in a slightly more haphazard way:

‘This all happened somewhere else in the Museum. It’s a huge place, and you never knew what was happening anywhere else. (1.39)

Basically, the Research Lab always did exactly what it wanted, paid no attention to anyone else and they had a computer, because they decided, ‘We’re up to-date, we need a computer and now what the hell do we do with it?’ Well they wanted to number crunch, and do some of their own analyses, that was one thing, but then someone said, ‘Oh we should use this to do something with the collection’, and that is where, I think, the link with the curatorial first came in. (02.20)’

What unites the recollections of both Griffiths and David McCutcheon, (who was one of the technical staff tasked with building the initial computer system) is an understanding that the Museum’s size, scope and longevity were all causes of these difficulties. The collections had grown vast, without corresponding adequate collection records as a result of two hundred years of haphazard practice. Each of the nine curatorial departments registered objects as they were acquired, entering the details in hand-written ledger books in order of arrival at the museum, but many entries were incomplete, there was a lack of indexes or cross-references and the records were often in illegible handwriting (Ibid). Not only was this a problem within individual departments, it also meant that across the Museum, instead of having a coherent, interconnected system, the reality was a series of devolved, disjointed files and ledger books. Far from being unique to the Museum, this was a problem replicated in many museums at the time (Sarasan, in Fahy, 1995: p.191). While, according to Griffiths, the experiment in the

Department of Ethnography was not a complete success, it did demonstrate the value of creating a digital database for records, and so the Departments of Coins and Medals and Prints and Drawings decided to begin digitising their records too (McCutcheon, p.142). This process was particularly important in the Department of Prints and Drawings where, historically, cataloguing did not include creating a record or card index entry for each object (Griffiths, p.357) with the result that there was no real way of knowing where an object was located or even if it was part of the collection. Digitisation offered the opportunity to create records for items which had not had one before:

‘We had the nightmare in P&D that the actual physical arrangement of the collection had been decided in the 1830s, so we had to spend five years reorganizing our collections first before we could catalogue anything... And since our biggest problem, in the department, at that stage was not knowing what we had and where it was, for me the location thing was absolutely critical. We had to change the entire departmental physical, manual indexing system which meant writing out twenty-five thousand new slips in the Artists’ Index. It was a huge job. (Griffiths interview, 7.34)

It also provided a way for curatorial staff to get to know their collections. In a Museum as large as the BM, where much of the collection is kept offsite and in storage, a comprehensive catalogue is essential.

From my perspective, when you are improving your catalogue record, it is not really research, it’s basic curatorial – knowing what you own, writing accurate descriptions, accurate identification, accurate interpretation of what it is. (Griffiths interview, 43.25)

However, the transition to electronic records was not implemented Museum-wide until the impetus and resources for the eventual decision to do so was provided by an external event. In the early 1980s, the National Audit Office and the Parliamentary Public Accounts Committee became interested in auditing national collections (Wilson, 1989: p.47). As a public institution, the Museum had a legal requirement to provide some kind of inventory (Szrajber interview, 18.11) and a computerised record seemed the only way to comply with their information request while simultaneously impressing upon the government the need for the financial support in order to undertake the project.

At that point, the Museum's collection had grown to the point where knowing what the Museum owned and verifying that everything was present and correct could only be done with the aid of computers – the volume of objects and records was too much to do manually. So the Museum began the process of transferring all the information from the old hand-written registers to a database (Griffiths, 2010: p.3). As David Wilson, the director at the time recollected: 'The Museum had been using computers in scientific work since 1973. When required by the Public Accounts Committee in 1981 to provide a computerised record of the collections for stock-taking purposes, we were not altogether without some expertise in these mysteries,' (Wilson, 1989:47).

From this point, until the early 1990s, the system was used as a means of linking descriptions of objects and their physical location in the Museum's stores, in order to complete the inventory process. This was meant to ameliorate the different record-keeping practices which had emerged internally at the Museum - since the hand-written registers were not self-indexing, they were not particularly useful as collection management tools, and various departments had developed different strategies for keeping on top of their collections; some used card-indices, some had annotated catalogues and some had been overwhelmed by the size of their holdings and had no real system at all (McCutcheon, p.3). It is important to remember, at this point, the scale of the collection and the number of records that needed to be created: nine departments contained over eight million objects, many of which required individual records.

In order to facilitate this, in the early 1990s the BM established the Collection Documentation Committee (CDC) - an internal body tasked with the responsibility of stewarding the development of the database and overseeing the transfer of the museum's paper records. From the outset, the Museum was guided in their digitisation planning by their institutional history and museological practice. In a 1991 report to the Director and Trustees, the CDC outlined the principles which guided the planning and execution of the catalogue digitisation as being shaped by five main aims, which are in turn informed by the Museum's own history: 'to enable objects to be identified, to permit regular and efficient audits, to allow objects to be made readily available to scholars and the general public, to provide reliable and up-to-date basic information and to facilitate scholarly research. Even if not articulated in this form, these principles have informed a vast amount of work that has been done by the staff of the British Museum since its foundation...' (CDC Report, 1991: p.4). In the same report, the Committee estimated that the time required to create the digital records for the Department

of Prints and Drawings alone would be approximately 200 man-years (CDC Report p.25), a figure which did not include the time needed for the development of the software itself.

One of the technical features of the database which was developed to speed up this process, and which also served to unify the collection were the series of thesauri and authority files which controlled the vocabulary for various technical terms and proper names (Szrajber, 2007, p4). These files allowed cataloguers to enter data, cross-check whether the same terms had been used in descriptions of different objects, and, in some cases, re-use information which had already been created for these other records. More than being a mechanism to facilitate the data entry, these files act as links between objects, creating connections for curators which may not have existed before. The significance of this ability to create new networks of relationships between the objects should not be underestimated. Their creation was motivated by the Museum's traditional practice of scholarly standards; despite the records being haphazard, the expertise of the people creating them was never doubted, and this was reflected in the records, as Tanya Szrajber recalls:

'We were quite pioneering. We were setting standards and doing new work, it was really quite exciting. (09:02)...

There were two good decisions we made here. One (and I was part of it) we decided very early on not to adopt foreign, outside terminologies. In other words, all our terminologies are internal. (09:27). And the terminologies came from these very old listings that would come from the staff and that we would look up. They were old fashioned, maybe spelled places differently because our resources were the registers, from the late 18th and early 19th centuries (10:08)... because they were gleaned from these very strange, sometimes up to-date, sometimes not sources; it took years and years to refine them. So, we started with this really strange list, and as I remember, we sat together as a little group of documentation people and pulled them together but there was a lot of curatorial advice and input over the years. (11:26) And then we made hierarchies... And I think the success of our particular project may be to do with the fact that curators not only have that active part in using and contributing to it, but I think because it is comprehensive it is actually quite useful to them (12:15)

As well as including terminologies from the original registers, the controlled vocabularies and thesauri also included technical and scientific terms, which allowed the preservation and research branches of the Museum's staff to work with the records as well. Again, this was seen as a crucial aspect of achieving buy-in for the project from all of the Museum's staff (Szrajber interview, 17.22) and is now considered, internally, as one of the great strengths of the way the Museum arranges its data (Stribblehill interview, 1.34.16).

Comprehensive searches, however, would only be possible once all the records had been added, and that proved to be a complicated undertaking. Griffiths describes how, in the early 1990s, data input into the initial version of the database was done by a small team of cataloguers who were not curators, and who had been specially trained in the system (p.358). Because they were working from the records and not the objects, and because they were not curators themselves, errors were commonplace. Convincing curators of the value of using adding to the catalogue, and then encouraging them to use it as part of their daily duties was difficult (Griffiths, p.358; Griffiths interview, 18.22). The CDC report includes opinions expressed by curators that transferring records to the database would be a 'waste of time' (p.7) and the argues robustly that unless constant effort was made to encourage curators to use the database for the day-to-day activity, it was at risk of becoming obsolete:

'Curators' familiarity with the system must be extended to a feeling of responsibility towards the accuracy and completeness of the database, not just in new records, but also in the old ones. This is absolutely crucial. If the database is not maintained and updated, it will become increasingly inaccurate and obsolete. Once this is so, it will no longer be trusted and therefore not used. The Museum's investment of many millions of pounds in its creation will then have been wasted. This is by no means a hypothetical fear' (p.13).

Curatorial antipathy towards mechanisation was not unique to the BM – Samuel Alberti describes how at the Manchester Museum, curatorial responses to the computerisation of documentation ranged from '...enthusiastic through apathetic to decidedly opposed,' (2009, p.136). Parry's history of museum computing describes curatorial resistance to computerised databases in the United States and United Kingdom (p.36), and he and other theorists suggest that there were several possible reasons to explain this widespread reticence to accept automated documentation systems. Very few curators were computer literate: many museums did not have computers at all (Sarasan, p.194) and curators were not familiar with using them and needed to be taught to type (Griffiths, 358). More broadly, anxiety that automation would have a homogenising effect on curatorship, had to be balanced against the need for standardised documentation if comprehensive museum digitisation was to be an achievable goal (Parry p.37-40). Some curators saw their expertise and knowledge at risk of being 'reduced' when converted to code (p.46) and were concerned that they would lose the

opportunity to describe objects in ways which were meaningful to them or their institutions. The price of imposing order was the loss of the personal, sometimes idiosyncratic touch, and for some curators this price may have been too high.

However, as Parry points out, there was another perspective; some curators recognised that 'rich and powerful information resources [were] made possible not just because of the advent of computing, but specifically because of the flexibility and interconnectedness of relational data modelling' which was enabled by the early database systems and improved by their subsequent versions (p.54). In this respect, the experience of the British Museum mirrors much of Parry's research, although as Griffiths (p.359) and Szrajber (p.4) both acknowledge, seeing the possibilities for collection management and research enabled by automated databases, in combination with the exertion of little pressure from the museum management (Griffiths interview, 34.00) was enough to convince most curators of the value of the undertaking.

As the internal use of computers became more widespread, it was possible to create a system in which individual staff were able to input data at distributed terminals, which were connected to a centrally-shared database, and which replaced the batch-upload system (CDC Report). This meant that more information, including images, conservation and bibliographic data could be added, to create more complete object records.

Griffiths believes that the ability to add photographs to the records, which could then be easily downloaded, or ordered between departments and sent via email was one of the breakthroughs at the BM which enabled curators to see the value of the database as a tool for their work both internally and with the public (p.359; Griffiths interview, 41.25). He saw this as a motivation for curators to improve the backlog of incomplete or incorrect records, in part because good photography translated into commercial orders for high-resolution images from the Museum's image reproduction services. Parry argues that the order imposed by database thinking allows information to become freer within the repository architecture, creating better connections between information in digitised collections and in turn reinforcing the identity of museums as institutions which 'by definition, gain their shape and identity through these rationales of collecting, storing and displaying objects' (p.33). This analysis chimes with what the experience at the BM has shown: Digitisation initially brought order, better internal access and improved display to the collections of the museum, which in turn enabled it to bolster its position as an international museum of human knowledge, based in a city which positions itself at the centre of the world, enabling it to better reflect back to that world the story of its cultures.

The process of planning and developing the database must also be understood as more than a logistical solution to a collections management problem. It was also ontologically creative - forming connections of meaning between objects and their locations that had not previously been possible (or would have been very difficult considering the size of the collections). Tiziana Beltrame, in her study of documentation digitization at the Musée du quai Branly in Paris (2016) argues that as museums undertake their primary purpose of making sense of the world using sociotechnical forms of knowledge organisation, they become active creators of new connections in the world. The impact of this on collections management, she argues, is that, any absence of clues which point curators to sources of meaning will result in them opting to record objects from scratch, such as creating a new record or undertaking retrospective inventory (p.122). Thus, she says 'the history of the object is recorded from its institutional present (digital or otherwise), creating new traces instead of just finding them' (Ibid). If we apply Beltrame's argument in the context of the digitisation of records at the British Museum, it becomes possible to see that the act of transferring the records of every object in the Museum from the registers, books of bound slips or incomplete card indexes on which they were kept to an electronic database resulted in the creation of a collection with a series of links and connections which had not, until that point, existed as a unified whole. In essence, they were recreating the Museum's entire collection.

4.8 Moving the Collection Online

The last decade has seen a significant growth in the way museums use the web as an outlet for resources and a space for engagement with their audiences. This activity has become integrated into museum practice to such an extent that it is possible to say that websites have become a central feature of a museum's work (Wilson, RJ 2011; Parry 2012, Terras, 2012). With the increasing technological complexity of digital museum collections and more widespread digital literacy of audiences, museums have had to rethink their expectations of their viewers' information requirements and vice versa (Marty, 2008, p.83) or risk falling into the trap outlined by Andrea Witcomb (which forms the basis of a good deal of the discussion in Chapter 4) in which museum websites are either static digital tourist brochures, or it is assumed that viewers will be content to have access to museum database, without proper responses from the museum to either the medium of the web or the needs of virtual visitors (2003: p.119).

In 2004, the Museum decided to put the records online, but it was a full three years before the project went live (Griffiths, p:361). The reasons given for the decision are generally that of providing a public good - Griffiths, who was given overall responsibility for the project argued that, in conjunction with the desire of the museum's trustees to develop a 'strong website', the records were viewed as a public resource (p:361) and should be available to the public. Szrajber echoes this, stating that the project fulfilled 'the Museum's commitment to sharing information about the collections in the most open way possible, and despite the potential hazards' (p:1). This sentiment is echoed by Julia Stribblehill, Web Liaison Documentation Manager at the Museum, who joined the team in 2007, as the COL was going online, and who remember the motivation for the release online as such: 'A lot of it was around that concept of being a museum of the world, for the world, it being a public collection, it's not owned by us, it's owned by the nation' (Stribblehill interview, 1.12.48)

Reading between the lines, it is also possible to discern an argument for expediency in the decision: the museum already had an extensive digital database on hand; by making it public, they would be able to assert their status as a museum with one of the largest and most extensive collections databases in the world:

'Of course by that stage it was dotcom world, and everyone was booming and busting, and everyone said, 'Ooh, the web is the next great thing, what are you going to do about it?' and of course suddenly we found we had something which could be put online, and we were about the only museum at that time who did. I still remember Andrew Burnett, who was then the deputy Director, and a very good one, said 'I think we'd better get this on the web.' And I said, 'Yes, I guess we'd better had.' He said, 'Will you do it?' and I said, 'OK'. So that was how that decision was taken' (Griffiths interview, 25.05)

Griffiths goes on to stress that there was no specific, imagined audience to whom the COL was to be directed, rather that, since the keepers and museum staff were already using the resources themselves, this should not change: 'I would like to think that the information we needed was the same as what a great expert on Albrecht Dürer needed, I don't see it as divorced' (Griffiths interview, 32.04). Internal Museum research show that the audience for the COL is researchers, although this includes school pupils, independent scholars, and academics (Stribblehill interview, 34.00).

The records were published 'warts-and-all' and no special measures were taken to improve, correct or rewrite them for the sake of the public view, although in the lead-up to the release, as many images as possible were added to the records (Griffiths: p.362; Szrajber: p.3). This meant that visitors to the Museum's site would be able to access the same database that the curators used every day, with very little information hidden from them.

The only fields disabled in the public view were those which contained information deemed necessary to keep the objects secure, such as their location in the Museum's stores, the original find spots and the prices paid for the original acquisitions (Stribblehill interview, 1.36.20). The records which were now online were the basis for most of the curatorial activity which took place in the Museum, including research, display, exhibitions and publications and as a source for answering questions from the public. With the bulk of the Museum's collection kept in off-site storage, the digital catalogue offered the best route in to the collection for many of the curators, and online publication would mean the same for the users across the web.

In practical terms, this means that users will invariably come across objects which reveal how complex and, at times, imperfect, the Museum's record keeping could be, and how difficult it can be to ascertain provenance in a museum of eight million objects. A good example is object Af,+.5126. This number refers to an axe, believed to originate in Zimbabwe, and part of a collection of African, North and South American and Oceanic materials purchased by the Museum from the collector J.S. Noldwritt in 1891⁴³. The curator's note for the axe, in the COL reads:

No registration Slip. Attached to axe is oblong paper label: "+ 5126 [inked]. Christy Fund 24 April 1891 [printed]". Old-style brown card British Museum tag: "SE Africa, S.Rhodesia. Mashona or Tonga". The list of Noldwritt Collection (Ethnography Department Register Archive, "Notebook 19") has the number "+.5126, Not found" (together with +.5127) annotated against an entry reading "Necklaces. do." [ditto = Ashantee]. This would seem to be in error, as no necklaces with these numbers attached have been identified, and labels "+.5126" and "+.5127" are attached to the axes - which are perhaps the two from "South Africa" noted on Noldwritt list on page following necklaces entry (and for which no "+" numbers have been annotated). NB: the Noldwritt Collection was purchased from G.R.Harding, 24/4/1891, and

⁴³ See the Museum's biographical note for Noldwritt at http://www.britishmuseum.org/research/search_the_collection_database/term_details.aspx?bioId=36934, accessed February 2018.

incorporated into Christy Collection (see printed index to Christy additions "1874-1893", p.38). No registration Slips were made out. (AMD,9/1998)⁴⁴.

On visit to the Museum, I was given access to the original documentation of the Noldwritt collection, in order to compare the information in the registers with that in the COL. The Notebook in which the original objects were listed contains five pages of handwritten notes, listing the objects in black ink. Each item is followed by a number, written in pencil. The axes believed to correspond to this object are listed as '2 axes, South Africa' and the pencil number following the description has been crossed out in blue pen. Taped to the front of the notebook was a handwritten note from 1998, which explain that the necklaces mentioned In the note have been identified, but that the discrepancy between the registration numbers remains. The brown card tag mentioned in the curators note was not included in the folder of materials.

From looking at the paperwork and digital records pertaining to this collection, I believe it is possible to see clear evidence of the new connections that Beltrame referred to. I was able to see these axes as part of a subcollection, which had its own backstory of collection, recording, mis-categorisation and attempts at sense-making of the record, if not of the object itself. What is missing was the biography of the object itself, with its uncertain provenance, it is very difficult to know where it came from, who made it, and how it came to be collected by J.S. Noldwritt, whose BM biography states that he was a 'custom house agent, Secretary of the Walworth Literary Institute and Fellow of the Royal Historical Society'. By presenting the public with a detailed history of the object from the point at which it arrived at the museum, we only have access to half of its story, and that revolves around the Museum, more so than around the object itself. It is, however, a story that reveals how much consideration the Museum gives to making the record as good as it can be, and reveals how seriously the Museum takes good museological practice, even if that practice is oriented towards a particular authoritative approach.

⁴⁴ See the COL record:

http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=577141&partId=1&searchText=+in+error&images=true&place=40703&page=1 accessed March 2017.

In Griffith's telling, the reasons for this level of access to the working tools of the curators was a return to the first principles for the Museum staff, coupled with the need for expedience. Objects in the museum had been acquired and documented at public expense, so the public had the right to access the digital versions of the records, and any images which accompanied them (p.362). At the same time very little additional work was done to prepare the existing records for publication online because to do anything else would have simply taken too long (Szrajber interview, 39.27). There is also an assumption that, at least when it comes to the COL records, there is no distinction between the informational needs of the curator and the public – if a record is good enough for internal use, then it is good enough to be public. This opening up of the Museum's records provides users with a way of looking behind the scenes and seeing the database as the Museum's curators do. In this respect, it gives a degree of access to collections (many of which are kept in off-site stores) which is unprecedented. At the same time, however, it is important to ask what the user can actually do with this set of resources, other than browse through them. Relatively little work has been done which investigates the co-ordination of cultural heritage content and information-seeking requirements of scholars in the humanities. However, Melissa Terras and several colleagues have questioned the reasons and motivations for mass digitisation in cultural heritage institutions, arguing that humanities researchers have heterogeneous information requirements, and use a broad range of sources (2012, p.55). Their research into the use of the COL by academics shows that scholarly find the records to be useful, and generally report a positive experience of using the resources (Terras & Ross, 2011). However, without the deep background knowledge of periods, materials and cultures which are part of a curator and scholar's knowledgescape, it is difficult to know the practical utility of the materials for in-depth explorations. This is particularly true when one considers how the information exists in isolation from other resources online, both internally produced by the Museum, and external resources from elsewhere on the web. Aside from the authority files, no links connect objects to one another within the catalogue, with no way of creating pathways through the collection.

Both Griffiths (p.361) and Szrajber (p.6) have noted that the online catalogue records are a useful source of answers for many of the enquiries the curatorial staff used to receive from the public. The value of this is not to be underestimated. But other research (Butler, 2015: p.162-163, Gardiner, 2015: p.515-525) has shown that when it comes to helping museum visitors get to grips with museum materials which embody what Sharon Macdonald

refers to as 'difficult heritage' (2011, p.1)⁴⁵ viewers need to be guided and explicitly directed by museum documentation and accompanying texts. Griffiths argues that, at the British Museum, this can be seen in the Museum's reluctance to engage fully with what used to be the Ethnographic collections, including the South Sea and South American materials, of which the Museum has some of the best in the world. He sees it as an anxiety on the Museum's part about how to tell the story of colonialism and the West, as it pertains to the present (Griffiths interview, 52.00)

While this is not in any way intended to equate the pasts embodied by the British Museum's ethnographic collections with the heritage relics of Nazi Germany, it does raise the point of the value of directed search and active curation in online catalogues. The Museum's collections come from all over the world, and as subsequent chapters will show, there are significant segments of the collections which do have difficult pasts, and tell awkward stories of colonialism, violence and subjugation. Providing contextual and object-related information is essential for enabling the kinds of connections Beltrame refers to. These connections are necessary to help museum visitors, online or offline, navigate through collections and see through the layers of interpretations and reinterpretations in order to create their own experiences with these objects.

4.9 Conclusion

In many museums, the new museological turn has resulted in reflexive practice which encourages debate and discussion as part of active ideological meta-struggles (Butler, 2015) that are equally concerned with the context in which their objects are presented as the collections themselves. Digital tools are increasingly becoming part of these debates, as museums use new technology to re-contextualise and experiment with parts of their collections by broadening access beyond the physical museum and in some cases, displaying objects in two places at once (Gibson & Kahn, 2016 Hogsden & Poulter, 2012(b); Hennessey, 2009; Srinivasan, 2012). This shift does not always extend to the documentation of objects, in either the original form or in their digital surrogates. Museum documentation is far from being a neutral collection of dispassionate facts (Cameron & Robinson, p.168). The documentation of museum collections is as laden with cultural and ideological meaning as the collections they describe (Beltrame, p.108). They can be read as a texts with associated overt,

⁴⁵ In her work on the politics of Nazi heritage in post-reunification Germany, MacDonald defines difficult heritage as 'a past that is recognised as meaningful in the present but that is also contested and awkward for public reconciliation with a positive, self-affirming contemporary identity' (2010: p.1).

hidden and implied meanings, which are then amplified or muted by the use of digital technology and the web.

In the digital space, the infrastructure of websites can be read as another form of documentation – much like the ledger or index. Using the lens of critical code studies as a means of exposing the designed and non-neutral experience of viewing a website (Kittler, 1995). If we return to R.J. Wilson's examination of the database, we see his analysis that the British Museum use of HTML and markup languages was such that the viewer's experience of the digital object

‘...appears amenable to the desires and demands of the viewers, whilst constraining the appearance of the object along the lines of consumption. The markup and programme languages used enable the visitor to achieve a sense of possession and ownership reaffirming their role as the consumer as they visit the online catalogue’ (p.384).

In addition to fostering a sense of ownership, however, Wilson found that although the database structure allowed users to link to other objects made of similar materials or with a shared geographical provenance, it was not possible for the viewer to create links to objects which would enable a building of alternative narratives (p.384). He argues that the way the database has been coded reaffirms a particular perspective on the significance and meaning of the objects for the viewer, and that while the online representation may aspire to providing a ‘neutral’ or objective resource, the exclusion of alternative narratives has literally encoded the experience of the website as an exercise in the colonial gaze of ownership and possession (p.385). Wilson concludes that despite the differences in the way museum visitors experience a museum on site versus online, at the level of the message conveyed through museum documentation and curatorial direction ‘there also exists a great deal of similarities. This correspondence between the site of the museum and the museum website arises from the intertextual nature of the markup and programme languages used to construct the online catalogue or the virtual exhibition’ (p.386).

Powerful integrated searchability and the use of authority files such as thesauri to create connections between objects across the collection are significant features of the British Museum's COL. However, the potential value of these connections need to be evaluated in terms of the informational content of the records themselves, and the avenues for connections which are presented. Beltrame argues that the constructed reality of digital archiving has an

impact on research trajectories, and ‘the regime surrounding the presence of a document and an object by lending the past a new texture, one that is always malleable but in a different way’ (2016: p.123). She quotes Bowker’s assertion that it is not the scale of the new possibilities for aggregating our past that is significant in the digital age but rather the ‘new viscosity’ of our malleable past which matters: ‘...we can aggregate the data along multiple different dimensions and perform complex operations over that set of dimensions. It is the pleats and the folds of our data rather than their number that constitute their texture.’ (Bowker 2005: p.7 in Beltrame, p.123). Without allowance being made for the possibility that new connections might encourage the emergence of new understandings and meanings of the experiences between people and things, we are left with the prospect of a well-connected network of objects which still reflect the curatorial voices, and deliberate silences of the eras in which they were collected. Chapters 5 and 6 will take a closer look at both the content and the form of the Museum’s documentation to test this argument.

Tanya Szrajber acknowledges the Museum’s curatorial practices still cleave to the traditional terms that prioritise the knowledge and expertise that exists within the institution over that which might be in the community - an ongoing adherence to the Museum’s founding principle of being a place of scholarship, but one which feels increasingly anachronistic:

‘The so-called “top-down” institutions clearly include the British Museum, along with other museums, libraries and galleries. It can indeed be said that, traditionally, museums have mediated access to their collections. This to some extent is still the case. After all, the objects are curated, researched and cared for by specialist staff that selects the objects for display, special exhibitions and publications. This is to be expected and encouraged, since people with such expertise have to be the link between the collections and the public’ (p.6).

At present, the catalogue online offers viewers an access route in to the collection but there is a sense that the Museum, in this case, is positioning itself as a gatekeeper of access to knowledge which may be of benefit to the public, but the benefit is to be derived on the Museum’s terms.

The COL does allow for wider access to the Museum’s objects and their records materials, by providing the public with access to what is, essentially, the curatorial tools for collection exploration, the Museum has come a long way in opening up their materials to the general public.

But there is a static element to these digital resources. The internal links between objects in the COL and to other digital resources, such as research catalogues are inconsistent. While the Museum has developed a machine-readable Semantic version of the collection database, it is not linked to the COL in any way, and no links to other projects can be made internally. The reasons for this are difficult to pin down, and Museum staff themselves seem uncertain of the reasons why: 'There's also disparity between what's happening on the research strategy - and us. I'm not sure why we don't have more connection' (Szrajber interview, 19.03). If a museum's conceptualisation of how knowledge is shaped stems from the way it conceptualises and uses its records, as Cameron & Robinson have argued (2007), then the British Museum's digitised records can be read as an example of an institution that is at once extremely confident in its own scholarly standards, but, having established this, is also impervious to external changes and developments (Griffiths interview, 41.00; Szrajber interview, 56.45; Stribblehill interview 1.35.10).

What runs throughout the history of the database digitisation is the character of the Museum which can be described as rigorous, scholarly and publicly-minded. The Museum is firm in the belief in their methods, which in turn has created a database that is an example of a transcoded digital media form, but lacks the reciprocity which Parry sees as existing between society and technology in which each is affected and coded by the other (2007: p131). The museum's use of technology has remained resolute and true to type, but not necessarily up-to-date with new models for the collection, creation and sharing of knowledge.

Chapter 5 – The Digital Transformation of the Object

5.1 Introduction

The process of digitising museum objects has the potential to be both mechanically and ontologically creative – with the result that digital museum collections contain objects which are not only replicas of their originals, but potentially new forms and sources of information. This chapter explores the possibility that through the process of digitisation the meanings associated with museum objects can be reshaped at multiple levels simultaneously: from the digital rendering of the object as image, video or 3D projection, to the way it stores information, what that new information might be, and the manner in which it may be extracted. This chapter will explore the contemporary object-oriented discourses taking place in museum studies and other related fields in which scholars are engaging with these possibilities. These include efforts to identify what changes take place when museum objects are digitised and remediated and how the resulting digital objects, when collated together in digital collections, may be said to represent new cultural forms, distinct from their analogue originals.

While this chapter is concerned predominantly with objects, it is necessary to begin by considering databases, as they exist in digital museum collections. This may seem counter-intuitive, but a database, like a museum catalogue, is more than a container for information. Just as the catalogue represents a way of creating order out of the relative chaos of the collection (Parry, 2007 p.33) so the database provides the structure for the arrangement of digitised knowledge within a museum repository. Information that has been encoded and kept in a digital format can be used more flexibly than information which is associated with material objects and relational databases, in which connections between data points can be made across collections, are a powerful tool for collections management and curation in museums (Andrews, 1998: p.21). The symbolic and practical significance of databases in museums owes a great deal to Lev Manovich's work on the relationship between databases and narratives (1999). Manovich argues that the database has become the 'symbolic form' of the information age, and database logic has completely reshaped the ways in which we conceive of producing and arranging knowledge, including in museums (p.80-84).

While Chapter 6 will explore this topic in more detail, for the purposes of this chapter, it's necessary to consider the database as a potential architecture for the narratives embedded in museum objects and stored within in museum records. Not all theorists share Manovich's enthusiasm for a world of cultural heritage shaped by database thinking - Parry (2007: p.56) refers to the iconic status to which databases in museums have been elevated and considers

them both a metonym for the museum, and source of fetishizing museum documentation systems. Knell is equally concerned by the assumption, driven by data-oriented thinking in museums which implies that until information has been digitised and stored in a database, it is not real (Knell, 2003: p.137). These warnings against over-inflating the status and potential of the database are illustrative of the central argument of this chapter – that digital databases alone cannot make the connections or fill the gaps in knowledge and narrative which are inherent in museum records and documentation systems (Geismar & Mohns, 2011).

This chapter will also seek to respond to Manovich's formulations regarding databases and narratives by showing that the two are not mutually exclusive. Manovich argues that the web privileges databases or aggregations over narratives or stories because narratives have an implicit ending, while databases have the potential to continually grow and change (p.84). He argues that 'regardless of whether new media objects present themselves as linear narratives, interactive narratives, databases, or something else, underneath, on the level of material organisation, they are all databases' (p.87). He goes on to say that while databases can support narratives, there is no logic in the form of the database which would encourage the emergence of narratives (p.89) and that, eventually, as more and more information is digitised or born digital, narratives will be replaced by databases. In response, Katherine Hayles (2007) suggests that rather than replacing them, databases and narratives are in fact naturally symbiotic. In her vision, as relational databases continue to expand, they will spawn new, multi-stranded narratives which mutate and transform to accommodate new data as it emerges (2007: p.1607). This pattern of narratives adapting to growing data provision can be seen in the emerging model of hybrid repositories, which are premised on the distributed, shareable and reusable nature of digital objects and their data across multiple sites or platforms, such as research infrastructures or linked data environments. These interlinked collections facilitate narrative approaches and create digital environments in which new narratives can emerge from databases.

However, this plasticity can only be exploited if it informs the way the object is digitised in the first place, and if it is enfolded into the practice of the museum at every level, from scholarly research to curatorial activity and public engagement. If not, digitised objects risk becoming simply another mechanism for accessing pre-existing museum knowledge and while this might open another route in to the collection, it may not be the catalyst for exploring new meanings. This tension will be discussed and examined using the work of contemporary museum theorists and practitioners as a starting point, and then several case studies as illustration. These theoretical discussions will then be applied in two examples: pieces from the British Museum's digitised collections will be considered, and the Museum's

deployment of digital objects will be examined within the framework of the overarching research question of how the Museum's identity is encoded and transmitted through digital objects.

The theoretical framing of this chapter takes its starting cue from Foucault's concept of the *episteme* – an argument that all periods of history are underpinned by certain assumptions that shape the way knowledge is considered (1970: p.192). Situating this within the museum world, via the work of several contemporary museum studies and material culture scholars, it then becomes possible to consider how objects are invested with meaning, and what differentiates objects that may be considered ordinary from those deemed special. These arguments will be used to establish the position, broadly speaking, that the epistemological context is responsible for defining what is considered as museum-worthy, thus shaping the character of museums and influencing how a society defines culture and knowledge.

Concurrently, the technological and museological turns of the last decade have challenged museum professionals to revisit the ways in which knowledge in Western museums (particularly indigenous knowledge emerging from ethnographic collections) is displayed and performed. The way value is ascribed to museum objects and their digital surrogates is an important underpinning to the approach, and I will draw heavily on the work of theorists and museum practitioners including Susan Pearce (1994), Andrea Witcomb (2007), Jenny Newell (2012) and Haidy Geismar (2013) who have interrogated the role of objects in museums and the changing relationships between digital objects and museum practice. This theory will help to inform the overall discussion of what information objects might look like in a digital museum. Finally, using two case studies from the British Museum's own digital deployments, the chapter evaluates the Museum's refiguring of knowledge in the digital space (an examination which considers the Museum's own pronouncements on its digital future and aspirations) and asks how the Museum is using the digital space to reflect on knowledge and the meanings created by its collections.

5.2 Locating Meaning in a Digital Object

Before launching into an examination of how digital and material museum objects embody and transmit meaning, it's necessary to have a good idea of what *kinds* of objects are being discussed. Scholars of material culture highlight the difficulty in comprehensively defining which kinds of objects may be considered to be representative of 'culture' (and therefore worth being included in a museum collection) and which are not, for reasons of scale, significance and simple common sense (Prown, 1982, Miller, 1987 & 2007, Deetz, 2010).

This complexity presents us with an important distinction – what characteristics qualify an object for inclusion in a collection and what do not? Once an object is in a collection, it also becomes eligible for inclusion in a digital collection - which raises the second framing question of this chapter – that of the difference between ‘the power of the real thing’ (Pearce, 1994: p.20) and its digital surrogate. Both of these questions are part of the overall framework for this object-oriented study. This chapter is not concerned with issues of classification as a mode of knowledge organisation; how classification embodies and imparts value will be examined in more detail in Chapters 6 and 7. Rather, in this section, I propose to look at objects as both material and digital reservoirs of meaning, embodying narratives and knowledge which may or may not be reflected in their classification as cultural artefacts, and thus qualifying them as worthy of inclusion in a collection.

The process by which a museum object can be read for ‘meaning’, is more complex than gesturing towards the presence of a narrative associated with the object⁴⁶. Susan Pearce’s discussion about what distinguishes a ‘discrete lump’ of matter from something that could be defined as an artefact has been discussed before in this thesis (see Chapter 2). She maintains that it is the process of selection and the association of cultural value that ‘... turns a part of the natural world into an object and a museum piece’ (1994: p.10). Her approach is based on the 1987 explanation of meaning in objects which was articulated by Ian Hodder and others of the Cambridge School of material culture. In *The Contextual Analysis of Symbolic Meaning* Hodder laid out the argument that all objects have meaning because they embody three characteristics: they have an effect on the world, they are part of an encoded set or structure and they have content in their meaning. In the first two formulations, Hodder argues, the form of the object is unimportant - if the purpose of the object is to convey information or perform a particular task. For example, if the purpose of the object is to cut down a tree, then any form of object will do, be it an axe or a chainsaw, as long as it does the job. He makes a particular point of mentioning the realm of information exchange in this part of the essay, pointing out that ‘any object will do as long as it conveys the correct information.’ (1987: p.1) For Hodder, the third type of meaning is the historical content of ideas and associations of the object itself, which load it with significance and make its use non-arbitrary. In Hodder’s formulation, all objects contain these three meanings, and all objects work in all three ways. If we accept this, it is possible to imagine that when an object is collected and

⁴⁶ In the context of this chapter, the term ‘object’ refers to museum item which might also be referred to as artefacts, or ethnographic objects. This is in contrast to natural history specimens, whose meaning can be understood in terms of their matter, which may be studied by scientists.

placed in a museum, the emphasis or significance of the object shifts. What may have been a tool in a source community becomes an artefact in the museum, and the informational meaning of that object will be foregrounded, while its purpose is less significant. At other moments in time it is the utilitarian meaning which may have been favoured. This framing is useful for two reasons; firstly, it allows us to imagine the meaning of objects as being shifting and malleable depending on their deployment in a particular context – and this can be extended to the digital deployment. The significant features of an artefact included as part of a museum display may be different to those that come to the fore when it goes online. Secondly, if we work from Hodder's formulation it is possible to argue that while an object gains a new form once digitised, this does not preclude the three types of meaning remaining embedded in it, or other meanings being added as a result of the digitisation process. How these meanings are embedded, however, remains an important contextual question; if an object's significance is not fixed, are changes an intended or inevitable outcome of digitisation, or can they be managed and controlled?

The main analytical focus of this section is the argument that shifts in meaning in digitised objects can be managed. The digitisation of museum objects is not only a mechanical process, resulting in the creation of a new digital format of a material object, but also a signifying process of knowledge organisation, during which the information that is latent in the object is extracted, re-formed and folded into the new representation (Buckland, 1991). As an object passes through each step of the digitisation process, layers of meaning are laid down, but certain information is also lost. Digital representations are by default incomplete – something will always be missing, be it a material feature of the object such as texture or movement, or a formal aspect, such as scale or dimension (Newell, 2012). A digital image of an object cannot convey how much it weighs, or what it feels like to the hand or the shape of the shadow it casts. While scholars and museum professionals must consider these changes, the loss of access to the material features is not necessarily a concern to many museum visitors – only a small number of objects in most museums are available to be touched, weighed or smelled. And for visitors, the gains of digitisation may outweigh the losses. Digital objects offer new views that their analogue progenitors do not; for example, they allow the opportunity to see detail that would otherwise be inaccessible, such as high-resolution close-up views, 3D renderings, views of the undersides or backs of the objects or x-ray or ultraviolet views of an object which reveal aspects which may otherwise be invisible to the layperson. A researcher who visits a museum for leisure may have different expectations of viewing an object on display in the galleries than they do when they access the object's records via an online catalogue (Terras & Ross, 2011). As such, the digitisation process can be both reductive

and cumulative, removing and adding information associated with the newly created digital object.

These additions and removals are not neutral by-products of technical processes. Each inclusion and exclusion is a consideration and can be seen as part of the process of organising and transmitting the information that is embedded in the object (Dahlström, Hansson & Kjellman, 2012). Planning the digitisation of a collection presents museum professionals with the potential to remake an object - not materially but in terms of the meaning it embodies. Ooghe & Moreels (2009) present the process of selection for digitisation as a process distinct from traditional collection management in cultural heritage digitisation. They characterise collection management as a routine process in cultural heritage management and one for which established best practices exist. In selection for digitisation, however, the authors highlight the fact that there is often an absence of external communication or documentation which explains the decisions around what materials to digitise (para.11). They argue that overly-optimistic attitudes about the amount of material that can be digitised, differences in approaches and terminologies between institutions and a reluctance from institutions to communicate how decisions on selection are made and the processes by which these decisions are reached might serve to explain why not all digitisation schemes appear to address the question of selection (para. 14). I shall return to this problem of the lack absence of explicatory documentation in the case study section of this chapter, and examine the possibility of looking at the areas of silence or under-documentation as indicators of meaning in the digitised objects.

It is my argument that these processes offer opportunities to add extra (not always immediately-evident) information to an object as it passes through the various stages of digitisation. Rather than being exclusively part of the collection management workflow of a museum, these processes can be seen as part of the knowledge management infrastructure of the institutions. Digitisation activities create infinitely replicable digital representations of an object that reside in a database, and are composed of layers of information, data and metadata. Each step of the digitisation involves a series of actions that are implemented upon the objects. These actions are the result of selective and reductive decisions; which objects are digitised, how they are digitised, which informational aspects of them are included and which are excluded. Simultaneously, each step also adds something to the way the object fits within a knowledge infrastructure – from traces of the initial information architecture and design of the repository, to why each object was included in a collection, what metadata was added, which material attributes are included as part of the digital object and how they relate to others in the database. Every one of these actions tells us something about the people who are

doing the digitisation, such as which objects they consider to be useful, valuable or important enough to be digitised, what information they think is significant to the ongoing management and understanding of the object and the narratives and meanings that they choose to include or exclude. These varied meanings may be encoded in the object itself, or conveyed to the viewer via the description, presentation and context of the objects. These meanings may be overt; made up of the factual information about the object. They may also be inferred; constructed from a range of implications, associations and absences. We can also read these decisions as part of a larger matrix of epistemological choices, which reflect the way the institution understands knowledge and how they choose to share that.

5.3 It's Only Potential if You Exploit It – Methodological Considerations

The significance of the potential of digitisation to reshape meaning in museum collections should not be underestimated, particularly when viewed in light of the contemporary debates around museum practice, narrative dominance and power dynamics. Museums, (national ones in particular) stand accused of enforcing and repeating power imbalances between the collector and the collected in the way they display objects (Macdonald, 2006, Mason 2011: p.18-30) and the way they record and document their collections (Turner, 2015). Michelle Pickover is more explicit about the contestations to be found in national memory institutions, and sees them as ‘...gatekeepers to silences and competing narratives and interpretations [and] therefore sites of struggle and deeply located within power relations’ (2014: p.1). However, as Taylor and Gibson (2016: p.1) point out, there is a reluctance among scholars of digital heritage studies to engage with or critique the ways in which museums have chosen to exercise this potential as a means of redressing the imbalances or respond to their critics. In the following section, I intend to look at how the Museum’s presentation of their digital assets can be seen to show traces of these tensions.

It is necessary to make two methodological notes at this point. The first is that any digital object which forms part of the British Museum’s collection has, in effect, been selected once already, and had its significance reflexively legitimised by dint of being in the collection. At some point in that object’s path from source to museum store, it was evaluated by a curator or Keeper and met a set of criteria that warranted its inclusion. It is not the intention of this thesis to question this aspect of curatorial practice - the discussion is not about the value of the object as an artefact, but rather how the information embedded in the object is displayed, deployed or otherwise made public (another important aspect of curatorial practice). Specifically, it is the web-based versions of these objects which form the basis of this examination.

Secondly, the history of the digital deployment of objects at the British Museum is an important factor which has an influence on the way this section progresses. As discussed in Chapter 2 and 3, the trajectory of digitisation at the Museum began with the catalogue records, rather than the objects themselves, with no consideration given to their eventual deployment online, since the project began pre-Internet (Griffiths). These digitised records were made available online at the same time as digital photography was becoming a regular feature of the Museum's day-to-day workflows (Griffiths, 2010: p.4) making it easy to associate high resolution digital images with the records online. This means that the bulk of the material available on the Museum's website is, (informationally-speaking at least) a digital version of the working object and that the public view is the same as the view accessed by curators and other Museum staff.

This discovery did raise the question, in the research planning, of whether these objects would be appropriate for use in the case-study of this Chapter, since no other version, specifically digitised for deployment online exists. This led me to wonder if a born-digital collection might make more sense as a source for study, since the distinction between material and digital versions would be much clearer and easier to examine critically. Ultimately, during the course of the research, the problem of which objects to examine was both complicated and simplified by the agreement reached by the Museum and Google to move one of the main sources for this research, the COMPASS collection, from the Museum's website to the Google Cultural Institute. The details of this agreement, and the implications have been discussed in Chapter 4 and I will return to them in Chapter 8, but in this context of this chapter, this scenario opened up the opportunity for the comparison of objects originating in the same collection but hosted online by different institutions. This allowed for a critical engagement with two different online deployments and different approaches to the objects. This provided solutions to the methodological question posed above by allowing for a comparison between the two different deployments which nonetheless had several characteristics in common.

5.4 Locating Knowledge in Digitised Museum Collections

In order to consider how the juxtaposition of museum materials and social memory into the digital paradigm might change the way knowledge is arranged and presented in a contemporary museum, it is necessary to start from a position which sees the close ties between museum theory and the reality of museum practice – a position towards which several museum scholars have been working over the last decade (Macdonald, 2011; Karp, 2004). This would allow us to examine what these possibilities may be, in the light of the

practical realities of museum management and curation, and offer a perspective from which to review and evaluate the digital knowledge structures of the British Museum. In order to achieve this, it is necessary to establish an overview of contemporary museum studies thinking, in order to understand the critical base from which the current arguments, which position museums as non-neutral spaces of narrative construction have developed.

Rhiannon Mason's critical overview of the theoretical underpinnings of contemporary museum studies (in Macdonald 2011: p.18-32) traces the close relationship between the development of cultural studies and museum studies since the 1980s and argues that the increasing acknowledgement of the political nature of museums is a result of what she terms 'the 'Foucault Effect' in museum studies (p.23) and the impact of Foucault's work on the field. This closeness requires that theorising the museum means considering material culture and cultural studies as having conceptual contributions to make, particularly when museum objects are the focus.

Both Mason and Macdonald (2011, p.1) point out that even though there has been significant growth in museum studies since the 1980s, much of the work still draws relatively heavily on a small number of theorists on whom Foucault's ideas of the non-linear subjective history, the knowledge episteme and discursive formations have been particularly influential. In particular, the foundational work of Paul Vergo (*The New Museology*, 1989) Eileen Hooper-Greenhill (*Museums and the Shaping of Knowledge*, 1992 and *Museum, Media, Message*, 1998) and Tony Bennett (*The Birth of the Museum*, 1995 and *Pasts Beyond Memory: Evolution, Museums, Colonisation*, 2004) form the basis for many of the contemporary debates and discussions between museum professionals and museum scholars which have been discussed in detail in Chapter 2. Both Hooper-Greenhill and Bennett are firmly rooted in the work of Foucault (*The Order of Things*, 1966) and Bourdieu (*The Love of Art: European Art Museums and their Publics*, 1991) and their investigations into the way power and subjugation impact the malleability of collective memory and how these dynamics are exercised and manifested in the museum context.

As mentioned in the Introduction, Foucault's *The Order of Things* divided history and culture into 'epistemes', the unconscious, but positive and productive set of relations within which knowledge is produced and within which, Foucault suggests, what counts as 'knowing' is delineated by specific cultural, social, political, scientific and other elements (p.191). According to him, these elements might vary as discoveries and intellectual frameworks change and are redefined; however even in these shifting paradigms, Foucault maps out large-scale correlations in the intellectual activity of certain periods, which, for him, constitute the basis for these epistemes.

Eileen Hooper-Greenhill's 1992 book *Museums and the Shaping of Knowledge* takes Foucault's theory and applies it in the museological context, and describes the process of how objects included in museum collections became sources of facts. The process of the development of knowledge becomes the basis for Hooper-Greenhill's history of how knowledge develops and is deployed in museums. While the epistemes provide a historical framework for grouping activities and intellectual movements, it is the intellectual shifts which occur between them which she sees as more significant for examining how museums consider and shape knowledge. These shifts are marked by changes to the specific characteristics of each era to the next and '...represented a massive cultural and epistemological upheaval, a rupture that meant the complete rewriting of knowledge' (Hooper-Greenhill, p.12). Hooper-Greenhill traces the history of these upheavals, from the Renaissance, when the Medici Palace was built as a simulacra of the universe and when the function of the museum was '...to enable the interpretation and reinterpretation of the similitudes...' (Ibid: p.13). She then moves through the scientific rationalism of the Enlightenment, when Cabinets of Curiosities and classification systems emerged and when the epistemological focus was on difference as the defining factor. During this period, museums developed the form as it is familiar to us today, and the individual regimes of practices, procedures and truth emerged (Ibid: p.145 & 192). Finally, she examines the modern era, and argues that it marks an epistemological shift from knowledge being defined as flat and tabulated in structure to a multi-layered view - we became less interested in the objects at face-value and more concerned with why they are what they are and how they fit into social and historical contexts and networks. Hooper-Greenhill argues that the ordering principles of the modern era are analogy and succession, and that these principles reinforce and reflect growing scholarly interest in the relationships between things, rather than in objects in their own right (p.18). Hooper-Greenhill illustrates the differences between the three eras with her interpretation of how the advice in a handbook for amateur collectors of antiquities from the late 1700s can be read as having different significance for all three historical eras:

'J.D.Koehler's book *Suggestions for Travelling Students* advised fledgling collectors to be systematic, and to divide statues into 'upright standing', 'seated', 'nudes', and 'clothed'. The resulting series would privilege a visual similarity and harmony. Thus in the classical age, those priorities of the Renaissance, the classifications of the world described by the art of memory, were not important. Neither were the priorities which were to emerge with the modern age: the place of origin of the sculpture, the identity of artist, and the date of production.' (1992: p.142)

Hooper-Greenhill ends *Museums and the Shaping of Knowledge* by suggesting that a new epistemological era is emerging for museums, which can be characterised by the collaborative approach that considers audiences as part of the knowledge-making process. (p.214) In this emerging order the experiences and opinions of everyday people are considered as having the same value as those of the 'decentred' curator, and narratives are expressed by multiple voices (including those which have been marginalised in the past) rather than the omniscient curatorial perspective. Museum-goers are no longer passive consumers of culture, but 'clients' or 'consumers' (p.210) whose new status allows them to relate to the museum from a negotiated position of equal power. Museum-goers are being seen as equally valuable producers of that culture, which is then included in the exhibit. Michelle Henning (in Macdonald & Basu, 2007) takes this argument further and uses the work of new media theorists to argue that this epistemic break has already occurred with the development of new media and the incorporation of these media into the museum's exhibition and curatorial practices (p.27-8). However, as the case studies will show, the use and inclusion of new media in museum exhibitions and online is not enough if the objective is to truly redefine the boundaries of the new era in museums. New forms of media may change *the way* audiences and visitors access information, but the more pressing discussion concerns *the type* of information being accessed.

The turn to the new museology, with a focus on social responsibility, polyvocality and inclusive interpretations of the meaning embedded in museum objects provides an appropriate framework for examining the British Museum's digital incarnation. Indeed, the democratising potential of the web is often cited by cultural heritage institutions and their governmental funders as one of the primary motivations for digitisation and the creation of online collections⁴⁷. However, according to Tayler (2013), Richardson (2013) and Waterton (2010) there has been little research that presents critiques of this model, either at the level of engagement, or with regards to the technical aspects of cultural heritage digitisation. Taylor and Gibson (2016) argue that this difficulty can be seen to manifest in museum practice as well:

'While the consumption of heritage is indeed wider and more sophisticated than ever before, as is the ability for people to respond to it with their views and

⁴⁷ See European Commission Report 2011; UK Department of Culture Media and Sport, 2012; British Museum Strategy: Beyond 2020).

interpretations, the actual decision as to what heritage is, and the implications of some participatory acts on public values, has become increasingly challenging' (p.2).

It is my contention that a more in-depth examination of the ways in which the process of digitisation can add new or extra significant elements and meaning to cultural heritage collections at the technical and symbolic levels will begin to redress this under-engagement.

Andrea Witcomb suggests that a perceived risk to the status of the museum may be one reason for the reluctance of museum professionals to rethink their practice in the light of digitisation (2007: p.35). Multimedia technologies, she explains, pose a threat to the established authority of the museum and the curator, and this challenges the power dynamic in the museum to the extent that they are seen by some as heralds of death for both the object and curatorial expertise (Ibid). This position assumes that the authority of the institution is critical to the survival of the knowledge extracted from the object, which can only be interpreted or transmitted through the museum or curator.

This argument, is, as Witcomb points out, unconvincing. By way of illustration, let us consider the example of the Rijksmuseum in Amsterdam, which has had considerable success with their digital collection. The Rijksmuseum is devoted to the history of the Netherlands and it has a substantial collection of around 1 million pieces, including masterpieces by Rembrandt, Vermeer and other Dutch Masters⁴⁸. On the museum's digital creative platform, RijksStudio, users from all over the world are encouraged to access the Museum's digitised collection of over 150 000 artworks, most of which are available as high-resolution downloads (Pekel, 2014). Users may then create their own collections from this database⁴⁹, group pieces by their own criteria and create and share edited collections of the works they have selected. Some examples of user-generated curations are: a collection of close-up images of the left hands of subjects in paintings and sculptures from the collection⁵⁰; a collection of

⁴⁸ History of the Rijksmuseum:

<<https://web.archive.org/web/20160926165137/https://www.rijksmuseum.nl/en/organisation/history-of-the-rijksmuseum>>.

⁴⁹ The copyright regime adopted by the museum means that many of these images are available for high-resolution downloads, and the Museum encourages users to use these images creatively, from printing them on business cards to creating make-up palettes using the tones of Dutch Masters paintings. An annual competition awards €10000 to the most innovative use of content from the collection.

⁵⁰ Left Hands:

<<https://web.archive.org/web/20160926165302/https://www.rijksmuseum.nl/en/rijksstudio/2016--rijksmuseum/collections/left-hands>>.

ugly babies from Renaissance paintings⁵¹, and a collection of images of winter and winter sports⁵². Far from sounding the death knell, the Rijksmuseum has increased its visitor numbers since their move to put high-quality, useable versions of their collection online (Ibid). These collections illustrate the point that, in contemporary digital times, we have already moved beyond what Eileen Hooper-Greenhill imagined might be possible while writing in the early 1990s and into a new epistemological era in museums. In this setting collections can be arranged in non-hierarchical and decentralised groupings, and museums can be spaces where allegorical and arbitrary associations, correspondences and resonances are equally valuable taxonomies for arranging information as the structured tables of the eighteenth century (Henning, 2006: p.18-24). The radical difference is that technology has now made it possible to link these taxonomies to others generated elsewhere, to build new structures around any number of distributed digital objects or to create meta-museums, which are unencumbered by the logistical considerations of space or geography. However, for this to happen, museums need to re-evaluate the traditional ways in which they consider knowledge, how they organise it and how they transmit and share it. This is not only a concern at the epistemological level, but at the technical one too, and requires considering the objects, the ways information is extracted from them and the ways this information is stored and shared.

5.5 Echoes and Voices

Cultural heritage professionals have begun to experiment with using technology to uncover the subjectivity inherent in museum objects in a curatorial context, such as using video, 3D renderings of objects and deploying replicas of culturally sensitive objects in museums (Geismar & Mohns, 2011; Srinivasan, 2012; Gibson & Kahn, 2016). However Geismar & Mohns also argue that there has been less of an uptake of this in explorations of the information architecture and metadata infrastructure which surrounds digital objects deployed by these institutions, and the potential offered by new models of knowledge organisation in museums has been under-exploited. Cameron & Robinson (in Cameron & Kenderdine eds. 2007) focus specifically on museum documentation and argue that while curators have, for some time, been familiar and comfortable with the notion that objects may

⁵¹ Ugly Babies: <
<https://web.archive.org/web/20160926165537/https://www.rijksmuseum.nl/en/rijksstudio/1606060--morgan-lee/collections/ugly-babies?ii=0&p=0>>.

⁵² Winter Landscapes:
 <<https://web.archive.org/web/20160926170054/https://www.rijksmuseum.nl/en/rijksstudio/214348--john-brown/collections/winter-scenes>>.

have multiple possible interpretations and strive to include these possibilities in their curatorial practice, the approach has been 'slow to be applied to documentation' with the result that the repository architecture of many museums still resembles its analogue progenitors – arranged in flat hierarchies, which follow linear, often chronological structures (p.180). Depending on the structure of the digital object, metadata may exist as both documentation for and an embedded aspect of the object, this type of arrangement privileges a one-directional passage through a collection of objects, a digital echo of the mediated experience of the museum in which the viewer's passage through a collection is directed by the institution. This is the model of engagement that characterised the classical episteme as articulated by Hooper-Greenhill and is, as such, incompatible with potential of digital objects to redress this imbalance. A substantial literature exists on how the arrangements of objects within the space in a museum manifests relationships of power and reinforces dominant narratives (see Bourdieu & Darbel, 1996; Bennett, 2004; Bennett in MacDonald. 2011; Mbembe, 2002) and theorists and practitioners have begun to explore the arrangement of objects and questions of space, audience and influence in virtual museum spaces (Flynn; Champion & Dave and Kenderdine, all in Cameron & Kenderdine, eds, 2007). Geismar and Mohns caution that celebrations of the flexibility and democratic potential of digital technologies must be balanced by awareness that they often provide an 'invisible, specialized, and bureaucratic template through which to organize information' (2011: p.134). While Chapter 5 will examine the issues of documentation and metadata in more detail, it is my contention that this digital echo is not accidental, nor is it an unintended by-product of the digitisation process. Rather, it is the result of deliberate choices made during the planning and execution of the digitisation process, which facilitates a replication and reinforcement of established identities in the web landscape.

Making room for polyvocality in digitised museum objects does not just mean locating and including narratives from outside the museum. It could also mean making space for the voices from inside the museum as well. In 1997, Peter Walsh wrote about the 'unassailable voice' of the museum, a certain tone or register which 'pervades museum labels, brochures, exhibitions, catalogues, the guided tour, audio-visual presentations, and now web sites. For the most part, it is both impersonal and disembodied: it is usually not a true human voice, connected to a real identity and personality, but a bureaucratic composite' (p.77). He characterises the voice as monolithic - suppressing multiple interpretations, aspiring to authority and masking of the multiple processes which take place within museums to bring an object to display (p.,78). He characterises the web, on the other hand, as being chaotic, democratic, un-hierarchical and, most significantly as being a place of dialogue (p.79). While

Chapter 7 will show that the supposed chaos of the web is actually more ordered than is immediately visible, Walsh's point regarding authority is well taken, despite the possible solutions he offers being technically dated (although almost 20 years on, many of the issues facing museums online have not changed significantly). Building on Walsh's work, Andrea Witcomb examines several museum websites, which, she argues, have managed to 'move beyond a simple notion of access, beyond simply making information accessible' (2003: p.121) and have begun to change the nature of the information they make available. She highlights four characteristics in the museums she cites⁵³ as being good examples of institutions whose use of the web demonstrates a shift in thinking about digital objects (p.121-125). Firstly, they maintain a distinction between the museum itself and the representation of their work and the collections on display. Secondly, they offer rich object-based detail. Thirdly, they offer access to primary source materials and finally, they provide extensive links to external content.

These four criteria are a useful yardstick (although not the only ones) for evaluating digital cultural heritage collections online, and gauging the difference between those collections which use digital tools as a means of creating access to unchanged content, and those which seek to re-form their content as well as their access tools. They will be used in the case study section in the analysis of the digital collections being examined.

5.6 Thinking in Layers

David Schloen and Sandra Schloen's 2014 article *Beyond Gutenberg: Transcending the Document Paradigm in Digital Humanities* (*Digital Humanities Quarterly*, 8:4) examines the arrangement of information within and around digitised objects and centres on the argument that the dominant paradigm of text encoding, namely, the *document* (which results in complex data structures formed out of character strings annotated with embedded markup tags) is insufficient for creating and managing complex digital objects (par 4.) These objects may have multiple correspondences to other interpretations and even other objects within collections. Schloen & Schloen contend that this situation has arisen because computer aided research in the humanities has chosen to cling to certain position-dependent data structures, which it has inherited from the scholarly canon (pars. 1-3). Thus, digital incarnations replicate organising structures such as 'pages' 'lines' and 'books', which are both insufficient and restrictive categories for the levels of detail, networkability, and layers of multi-media, which make up

⁵³ It is worth noting that of the six museums Witcomb uses as a sample, all six are based in North America, and four of the museums are part of large universities, which makes for a fairly homogenous sample – further testing of the characteristics Witcomb outlines should be done with online projects from museums based outside of North America.

digital objects. They make the case for the use of a 'database paradigm, which is characterised by data structures that transcend the position-dependent structure of pre-digital documents. Database systems make use of unique 'keys' and internal indexes to retrieve and recombine atomised units of information in a flexible manner' (par 5.) Collections with this structure as an underpinning have the potential to be much richer, allowing for flexibility and connections with other collections beyond the strictures of their own databases or their analogue proxies – the brick-and-mortar institutions.

While Schloen and Schloen present a powerful and compelling suggestion for the arrangement of scholarly knowledge, it is possible to see how this mode of thinking poses precisely the risks that Witcomb described for any museum undergoing a digital transformation. Imagine that the museum consists of groups of objects which have been accumulated, organised and arranged in particular ways both in galleries in a physical space, and as information in records. These classifications and arrangements have been created by experts, and refined by generations of practice. The prospect of a digital replica which dissolves these organising containers and hierarchies, opens them up and allows new combinations and permutations of objects and data to be created poses a significant threat to the museum's authority and undermines its interpretive status quo. As Dipesh Chakrabarty (2002) argues, museums have always deployed specific interpretations of objects as part of greater ideological frameworks that serve particular purposes, such as educating citizens to serve the interests of the nation state (p.7). The emphasis placed on these top-down frameworks as being objective, neutral and rational was precisely because they repudiated other forms of knowledge production, such as indigenous knowledge or experiential knowledge (p.6).

The notion of viewing digital objects as information-rich nodes in a network is not limited to the realm of those who work to digitise them. The museological turn has signalled a shift away from the perspective which sees objects as singular simulacra for a body of knowledge towards a view of museum specimens as active nodes in networks of other objects, both digital and analogue (Conn, 2010) and this provides a useful paradigm for considering both how a museum conducts its activity and the ways in which it connects to other institutions. Fiona Cameron argues that by plugging their collections into the web via social media tools, museums are able to enter the general global flow of information and 'operate within networks that transcend their immediate location, placing them in wider flows of interconnected cultural, political, economic and technological ideas, agendas and resources' (Cameron, 2008, p233). Drawing on Latour's notion of the object-oriented democracy (a conceptual scenario in which, through inclusion in a network, objects have the capacity to

equally affect each other and which challenges the view of objects as factual - see Latour, 2005: 19) Cameron points out that museum facts are fluid not static, and different perspectives may be promoted or disregarded by being included or excluded from the interpretation of objects. Networked technology, she says, as made it easier to broadcast these perspectives thereby cementing them as 'factual' within the global information stream. Geismar points out that the digital space can structure the engagements that museums have with their users in part because linked metadata provides the possibility for lateral connections to be made internally and externally (2013, p.255). Contrary to the idea that digital representations of objects are 'poor relations' to the material progenitor (Hogsden & Poulter, 2012(a) p. 81), digital objects have the potential to convey much richer information to the viewer both as singular objects and as part of the greater network of the web. However, this potential can only be exploited if those who are creating and rendering the object make provision for this networkability while the object is being created and published.

5.6 Choices Leave Traces

The process of digitisation is a considered one (Tanner, 2001). Every aspect of the creation of a digital object, from how it was selected, to the way it is digitised and rendered (via a scan, a photograph, OCR or any other method), how is it displayed within networks of meaning and how these meanings are then deployed requires decisions to be made. Which essential characteristics of an object or collection to retain and which to leave out has an impact on the meaning of the object, and these decisions leave traces on the object; they are the digital fingerprints of the curators and other professionals who created them (Dahlström, Hansson, & Kjellman, 2012: p.465). If the process of collection development is an intentional one, which forms and frames the meaning of the collection by creating routes into knowing the world (Macdonald, 2011: p.82) then digitisation must have the same effect, despite the different medium. The processes of digital collection development mirror those of collection, and if anything, have a wider effect on the objects and the institution. As Dahlström, Hansson and Kjellman point out: 'Digitization of cultural heritage brings new practices, tools and arenas that reconfigure and reinterpret not only the collections, but the memory institutions themselves as well as the roles they respectively play on a societal level' (Dahlström, Hansson & Kjellman, p.455).

This perspective considers digitisation as a constructive process whereby new meanings and interpretations are applied to the digital object like layers of lacquer applied to a surface. In contrast, many of the narratives around the role of technology in museums see

the process by which knowledge is converted to information as a reductive one, with implications of loss, shrinkage and a dumbing-down of the content (Witcomb in Cameron & Kenderdine, eds. 2007: p.35-48, Parry, 2007: p.130). This formulation positions technology as the other in the museum, thus automatically rendering digital versions of the collection as inferior, or insubstantial. However, I would argue that digitisation offers museums the opportunity to experiment with objects in their collections and to refigure the material, temporal and spatial aspects of these objects. Objects have a transformative potential, and the material and historical aspects have been given primacy even though museums are increasingly embracing digital. Hogsden & Poulter (2012) argue that digital objects have transformative effects too, and encourage us to think about digital and 'real' objects in the same framework, and see them as separate, yet connected entities. Were (2015) argues that museum objects, in particular those which are part of ethnographic collections, are more than repositories of memories and culture. He points out that they have the attributions of being performative, mobile and virtual, which allows them to have influence and impact beyond the physical realms of the collecting institution (p.153). Were's investigation focussed on the use of 3D renderings to 'repatriate' ethnographic objects to their source communities among the Nalik people of New Ireland, Papua New Guinea. He found that rather than seeing digital heritage in the binary framing of authenticity/real and fabrication/deceit (as per Walter Benjamin's assertion) the communities ascribed equal power and significance to the digital versions of the artefacts in question (p.160-162). Were argues that it is more useful to reframe our understanding of authenticity in terms of completeness and integrity, which has the effect of creating authentic experiences of the past for the source communities in question (p.154). In turn, this sense of completeness allowed communities more agency in the management of their cultural heritage held in collections abroad. The challenge is how to design the information architecture for a digital museum in order to allow for these types of new interactions between communities and their digital heritage. Recently, researchers have been considering organic processes for designing repositories and architecture, which will leverage the linking possibilities found online for creating powerful networks of information structures which can lead to the empowerment of communities through technology, and a 'recoding' of cultural heritage via digital mechanisms in both source communities and museums (Christen 2006; McTavish 2005; Ngata 2012; Parry 2007; Simpson 2009). Srinivasan & Huang (2005) suggest that while great progress is being made by researchers in the fields of knowledge representation and ontologies and the networked nature and visibility of the digital museum object, these two areas represent the opposite poles of the discussion, and the gap between them is widening. They suggest that rather than focus on developing

fixed, interoperable standards for managing data, a more rewarding approach would be to consider developing systems which ‘...liquefy such structures and designing fluid ontologies, processes for letting knowledge structures emerge from the interaction with the very communities that are using the digital museum’ (Ibid: p.5). Their investigations show that projects where fluid ontologies are deployed, thus making space for the users of a digital museum to become co-creators and contributors to the project results in projects which have significant benefits to both the visitors and the creators of the museum (Ibid: p.14). By de-emphasising the need to build intelligent, *a priori*, standardised knowledge structures, which are then imposed upon the digital collection they recommend processes and tools which ‘gradually support the sense-making processes of humans when they are confronted with cultural and artistic heritage’ (Ibid: p.17). This argument is echoed in Michael Christie’s work on the digitisation of Aboriginal cultural heritage in Australia (2005). In this he shows that the biases and assumptions about knowledge inherent in database structures inherited from European traditions of knowledge management can be managed and reconfigured to more accurately reflect the philosophies of knowledge of the communities involved, but that these philosophies have to be encoded directly into the database software if they are to be effective (p.9). Essentially, he’s arguing that the possibility for fluidity needs to be part of the development of the system. These arguments are further expanded and enlarged by Fiona Cameron’s recent conception of the ‘liquid museum’, which is flexible enough to respond to rapid changes in knowledge and scholarship, such as advances in climate change science (2010, 2013). This idea will be explored in significant depth in Chapter 8. The practical reality is that digital objects can exist in a multitude of places at the same time, in a variety of forms (holograms, 3D scans or print-outs, high-definition replicas) and be plugged into larger networks of objects and knowledge frameworks through increasingly ubiquitous digital methodologies such as linked data and APIs. In the following three case studies, I will examine two different digital deployments of heritage objects by the British Museum, each one making use of slightly different technical possibilities to transmit culture and heritage via the web. Each study will look critically at both the form of the deployment (the ‘how’ of the sharing) and the type of information being deployed (the ‘what’ which is being shared).

5.8 Stories and Silences –African Objects in the British Museum

The case study section of this chapter focuses on three examples of digitised objects, which provide different routes in to the British Museum’s digitised collection. Each case is an example of Museum’s material - objects accompanied by some text - that has been deployed on three different platforms. The two first objects were selected because of their common

provenance - they are items that came to the Museum as a result of a violent encounter of the colonial period, which has been well documented and about which a substantial body of supplementary scholarly information is available⁵⁴. The third has a less-clear provenance, but has an equally significant meaning to those who are able to decode it. The objective of this section is not to critique the Museum's digitisation of these objects. Rather, it is to look objectively at all cases, and see if it is possible to evidence whether the Museum, (even when using external platforms and new technological models) conveys a sense of its particular identity, in the form of a digital echo, fingerprint or unassailable voice which may be seen in the digitised objects online. The informational aspect of these digital objects will be examined in some detail - the accompanying texts, and metadata, as well as the plasticity of the objects themselves all form part of the analysis. How they have been rendered digitally, both as surrogates of their analogue predecessors and as complex information objects will be evaluated in terms of Witcomb's characteristics of successful digital museum projects.

In an interview in the *Guardian* newspaper on the topic of the return, Neal McGregor, then Director of the Museum is quoted as saying: 'Repatriation is yesterday's question. Questions of ownership depend on the thought that an object can only be in one place. That's no longer true.'⁵⁵ This statement was made in the context of an interview discussing the repatriation of African artefacts in the Museum's collection and exposes the difficulty inherent in considering the Museum's use of its digitised collection. The idea that an artefact can be seen in two places (or two million places) at once offers the chance of moving beyond the museum, providing access to those who may never otherwise see cultural products and developing new audiences for museums for whom new heterogeneous visitors are increasingly important (Cameron & Mengler, 2010). However, McGregor's quote also reveals how questions of ownership, authenticity and the value of objects are just as central to discussions concerned with museum objects in the digital space as they are in the material world. Former BM director David Wilson who wrote in his history of the Museum in 2000 that the BM's arguments against repatriation '...do not rest purely on a legalistic view; rather they encapsulate a moral position which has been forcibly repeated' (p.323).

⁵⁴ For an introduction to the Benin Bronzes, their provenance, dispersal and their place in Western art history see: Coombs, A. *Reinventing Africa: Museums, Material Culture and Popular Imagination* (1994, Yale University Press), Greenfield, J. *Return Cultural Treasures* (1996, Cambridge University Press) and *African Arts*, Vol. 30, No. 3, Special Issue: The Benin Centenary, Part 1 & 2 (Summer & Winter 1997).

⁵⁵ Higgins, Charlotte. 'Into Africa: British Museum's reply to ownership debate'. *Guardian.com*, 13 April 2006. <<https://web.archive.org/web/20160926170548/https://www.theguardian.com/world/2006/apr/13/arts.artsnews>>.

Critics of the BM have suggested that ‘...a walk around the Museum is a walk around the world, with Britain firmly located at the epicentre’ (Hazan, 2007 p.137). McGregor’s comment also carries an implicit inference: that to speak of repatriation is to be stuck in the past, to be curatorially backward and undeveloped. It also begs the question: If objects can exist simultaneously in a multitude of places, does any one version matter more than any other? Or is it still the case that the ‘real’ object somehow carries more significance than the surrogates, and its value is therefore influenced by its location?

It is this reframing which is at the crux of this research – and my contention that in the digital objects we are able to see evidence to show that, in several examples of their digital outputs, there is a persistent singular voice, which articulates an identity that has remained unchanged. While the digital versions of many objects from the collections offer new routes in to the collection, these interactions are controlled by the Museum, as are the types of information that can be accessed - which, in some cases has been affected by their removal from the web.

Case Studies

Case Study 1: Benin Plaque

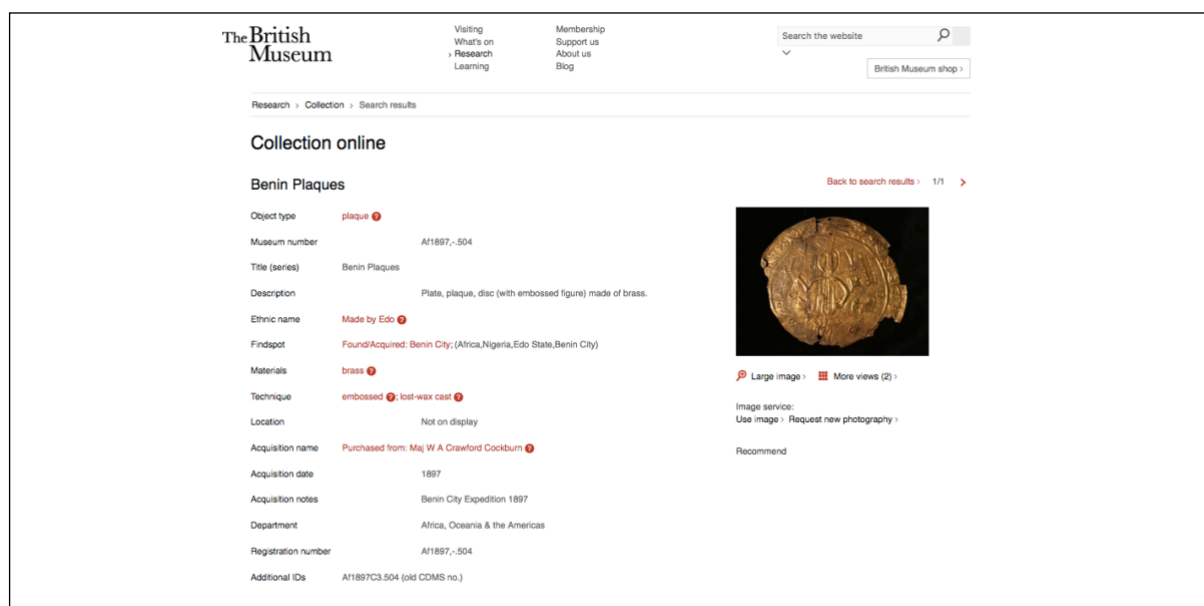


Image 5.1 COL record for Benin Plaque on the British Museum website

The first object in question can be found in the British Museum’s online catalogue by searching for the object reference number Af1897-.506. It is a brass plaque, part of a

collection known as the Benin Bronzes. The object is a disc or medal made of brass, embossed with a human figure. No dimensions are given in the record so it is impossible to know the size of the disc. In fact, very little contextual or object data is provided in the record. From the image above it is possible to see the fifteen information fields for the object, including the find spot, acquisition name, and acquisition notes. What this deceptively neutral record leaves out is the story of how this object came to be part of the Museum's collection.

This particular piece is one of the Museum's collection of over 700 objects that were taken from Benin City, in the Edo state in Nigeria. They were acquired after a punitive expedition led on the city in 1897. At the time, the Edo people, under their Oba (King) Ovonramwen were resisting the British colonial expansion and dominance in the region now known as the Niger Delta. The expedition, led by Admiral Sir Harry Rawson, was a retaliatory attack in response to an Edo defeat of a previous British invasion force in late 1896. Under Rawson, the British troops destroyed the city, deposed and exiled the Oba and took over 2500 pieces from the royal compound including artworks, statues, jewellery and other objects as plunder. (Boisragon, 1897; Nevadomsky 1997; Husemann, 2013). In Boisragon's first-hand account he claims that the expedition's leaders had some concept of the value of the objects in the Palace, and were confident that the raid would be financially profitable (1897, p.186). Indeed, later that year, the art, jewellery, ivory and other objects were auctioned off to defray the cost of expedition. While the bulk of them were bought by German museums, the second greatest number was acquired by the British Museum. This particular expedition had far-reaching and long-lasting consequences for the people of Benin, and for European museums. It is considered by Penny (2002) and Gunsch (2013) to have opened the doors to other European collectors of the period. Unlike other collections of African ethnographic material, which were accumulated over many years, 'the single moment of military conquest' (Gunsch, 2013: p.22) opened Nigeria to collectors who met with little resistance in their efforts to collect Oba objects. Meanwhile, the plaques and other objects that had made their way to European collections are considered to be catalysts for the development of interest in African art and precursors to the Modernist movement in European visual art. As Nevadomsky wrote in the introduction to a special edition of the journal *African Arts* which focussed on Benin art and material culture 'Events surrounding the British punitive expedition to Benin in 1897 are often seen as a paradigm of the European-African encounter, boiled down to this stark sequence: European imperialists invade and destroy an African kingdom, oust its ruler, establish political control, causing the indigenous culture to slip into an irrevocable artistic decline' (1997, p.18). None of this information can be found in the record of the object, which is accessible from the British Museum's website.

This chapter made earlier reference to the work of Srinivasan (2009), Cameron (2008) and MacDonald (2006) as arguments for the idea that museum objects, be they digital or material, do not exist in a vacuum. They are connected to complex networks of other objects and historical events. Unlike their material originals, however, digital objects have both the potential and the flexibility to include more information drawn from these networks and historical contexts. This information adds layers of complexity and context to the object while at the same time calling into question the idea that any artefact can have an empirical truth or single significance. However, partly due to the need to conform to museological practice of a universal ordering structure for all objects and records, this contextual information is absent from this particular piece. Opp (2008) argues that there is always a risk that the structures created for the arrangement of records and information act as a silencing mechanism for the narrative associated with the objects: 'Subject headings and the manner in which they are applied, can themselves serve as tools of exclusion' (p.7) meaning that for the viewer, their reading of the object is, unbeknown to them, shaped by the digital pathways required to retrieve it (p.14). This is echoed by Geismar when she pointed out that the tensions around power relations in digitised museums and databases is defined by the struggle which emerges when curators attempt to represent difference between objects using standardised toolkits. (2013: p.256).

Digital technology offers the potential for museums to accommodate the polyvocal nature of their objects by rethinking their documentation (Cameron & Robinson, 2007: p.171) and their information architecture (Witcomb, 2003: p.127). The increasing sophistication of information systems allows for relational possibilities within and between collections, which have the capacity to store, search and retrieve enormous amounts of data across repositories and regardless of media types. The architecture of the British Museum's database, with links between records and authority files makes this technologically possible (Szrajber, 2007), meaning that the contextual and narrative information discussed above could be linked to from the Museum's site, if not embedded in the object or the object records themselves. However, at present, while these links between objects within the same or other collections may exist (such as in the Museum's linked data repository) they are not fully exploited in the public version. Another plaque in the Benin collection, with the reference number Af1898,0115.38⁵⁶ includes the following curatorial note in the record:

⁵⁶<https://web.archive.org/web/20160926170432/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=8849&partId=1&place=14952&museumno=Af1898,0115.38&page=1>.

‘Following the British occupation of Benin City (Edo) in 1897 objects made of brass, ivory and wood were seized by the British force from the royal quarters and various storerooms. The British Museum successfully petitioned the Government to safeguard some of these objects and over 300 brass plaques were sent to the UK by the Consul-General [Sir] Ralph Moor and placed at the Foreign Office. Numerous other objects brought out of the city were sold or exchanged on the coast; many pieces were brought to the UK where they were sold through private auction or were retained by soldiers of the expedition. The Museum initially received 203 of these plaques as a gift from the Secretary of State for Foreign Affairs.... Of the remaining plaques the Foreign Office retained eight and the rest were offered for sale to major museums, collectors and private dealers in Europe and the UK. Today over nine hundred plaques are known to exist in museums and private collections around the world.⁵⁷

Highlighting this difference between the two records is not intended to show the Museum’s records as being inadequate. In fact it is a useful reminder that the curatorial staff at the Museum are well aware of, and sensitive to, the complex narratives and uncomfortable histories of the objects in the collection, and do not shy away from making them known. The Museum’s good recordkeeping is very visible here. The weakness lies in the infrastructure. As a result of the lack of links between the objects within the database, as well as the lack of link to external sources, this information is difficult for a user to locate.

An application of Witcomb’s four criteria reveals a lack of distinction between the museum and the representation of the object, there are inconsistencies in the object based-detail from individual object to individual object, there is little access to primary source materials and there is no evidence of links to external materials. These deficiencies imply that the approach to the digital objects still originates in the analogue paradigm, dominated by the Museum’s version of Walsh’s unassailable voice; and that the digital versions cannot be considered to be multi-dimensional information objects, with the potential for fluid, networked connections to other information sources, including objects and records from the same collection.

⁵⁷<https://web.archive.org/web/20160926170646/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=8849&partId=1>.

Case Study 2: Ivory Mask - Google Cultural Heritage Institute

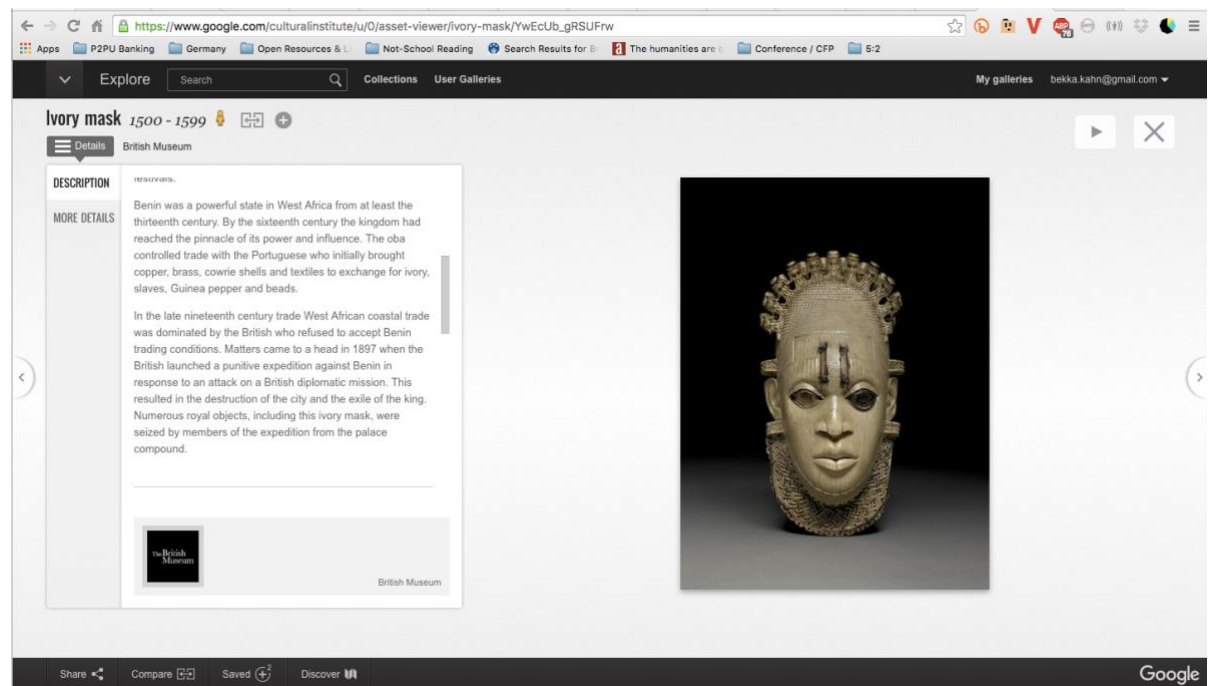


Image 5.2: Screen shot of the Ivory Mask from Benin, as seen in the British Museum's gallery in the Google Cultural Institute

By way of comparison, the next example examines another object from Benin City which was taken as part of the 1897 expedition - an ivory mask associated with the mother of the King. This digital object exists in several online spaces at once - as a digital record in the COL⁵⁸, as one of the objects in the display cases visible in a virtual walkthrough of the Museum's galleries and as an object which is part of the Museum's collaboration with the Google, hosted on the Google Cultural Institute website⁵⁹. The purpose of this comparison is to investigate whether object hosted externally meets more of Witcomb's criteria and therefore conform the possibility of creating networked objects out of the BM's collections.

In November 2015, the Museum announced a partnership with Google which resulted in four news ways for web users to access the Museum's holdings⁶⁰: objects would be available for viewing online via the Google Cultural Institute, alongside virtual versions of the Museum's current special exhibitions; users would be able to use Google Street View to walk

⁵⁸ <https://web.archive.org/web/20160926171009/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=621190&partId=1>.

⁵⁹ <https://web.archive.org/save/_embed/https://www.google.com/culturalinstitute/beta/asset/ivory-mask/YwEcUb_gRSUFrw>.

⁶⁰ For the press release announcing this partnership, see <https://web.archive.org/web/20160926171231/http://www.britishmuseum.org/about_us/news_and_press/press_releases/2015/with_google.aspx>.

through the galleries, and access more information about some of the objects by clicking on them, and they would be able to browse a virtual timeline of human activity, called Museum of the World (<https://britishmuseum.withgoogle.com>).

This was created using web graphics, in which data points linked to objects, presented on parallel timelines representing all five continents. Clicking on a data point takes the viewer to page for the object where they can access audio of curators discussing the object, Google Maps show its geographical associations, and there are links to associated objects from the collection. The bulk of the objects in question were taken from a previous British Museum digital project, COMPASS, which launched online in 2000 and made 5000 objects from the Museum's collection available as high-resolution images with free-text descriptions (Marshall, 1999; Loverance, 1998). However, since the 2015 launch, any objects and their records which were part of COMPASS have been removed from the BM website, and visitors to those pages find the message: 'The content you are looking for may no longer exist. The Explore section of the website, including highlight objects, has now been removed. Highlight objects may now be found on the Google Cultural Institute'⁶¹

In its representation as part of the Google Cultural Institute, the mask in question can be viewed as part of two possible ways - either as part of the walkthrough of the African galleries, using Google's Street View to navigate the Museum, or as part of a selection of the 4,600 objects from the Museum in the Cultural Institute which can viewed individually. In the Street View version, only some of the objects photographed in the display cases are clickable - when clicked the viewer is taken to the Cultural Institute view, where it is possible to read the objects' associated records as well as find extra information and high-resolution photos of the object, which allows them to zoom in and examine the object in much more detail than would be possible in the museum setting. In the Street View version, the ivory mask is the only object from the Benin collection which offers the option of accessing extra information.

In the case of the mask, the free-text description gives detail about the origin, material and history of the mask, as well as the formal object record. No citation is provided for this information, so it is unclear if it has been written by Museum curatorial staff or comes from an external source. There is a link, however, to the mask's object record in the online catalogue, so it is possible to access the Museum's website by way of the Cultural Institute. In the final paragraph of the description, the following text refers to the provenance of the mask:

⁶¹<See <https://web.archive.org/web/20160926171333/http://www.britishmuseum.org/compass>>.

‘In 1897 the British launched a punitive expedition against Benin in response to an attack on a British diplomatic mission. This resulted in the destruction of the city and the exile of the king. Numerous royal objects, including this ivory mask, were seized by members of the expedition from the palace compound.’

In the COL record none of this information is provided. However, by clicking on the (hyperlinked) associated biographical files of the collector named in the ‘acquisition’ field it is possible to trace the provenance back to Sir Ralph Moore, Vice-Consul of the region, and one of the commanders of the punitive force⁶².

There are several issues related to the Google collaboration which bear considering. The first is the question of the removal of content which has been transferred from the Museum’s website to the Google repository. This loss is wholesale - while records and information may be accessible via web archives such as the Wayback machine (see Chapter 8 for a deeper exploration of this), this not guaranteed. There is a real risk that some information may be lost for good, and any hyperlinks which previously pointed to that content will no longer work, putting resources at risk of linkrot. It’s not within the scope of this chapter to examine the relationship between the Museum and Google, but it is within the scope to look at how Google and the Museum have presented the content they have shared, and return to the overarching question of the thesis – can we see traces of a museological identity in this digital content, and if so, what is it telling us?

The fragmentation of the information available about these objects across two different sites tells us something about how the Museum’s presence may be read. The observations by Anthony Griffiths that the Museum is ‘... a huge place, you never knew what was happening anywhere else’ (Griffiths interview, 1.39) and ‘This was always the way the Museum worked. It was a very delegated, decentralised organisation with lots of units doing their own thing. (Ibid, 16.11) have resonance in this context. Perhaps it is not surprising that a large institution, with a history of decentralised activity, and a tradition of good record keeping (in terms of the content of the records) but poor internal record management (McCutcheon, 1986) would struggle to manage information deployment over the sprawl of the web. In this, we can see an echo of the Museum’s institutional identity playing out via the

⁶² Moore’s biographical file in the Museum’s database does not refer to the force as punitive, but states that he was a ‘Member of the British Military Expedition to Benin City, 1897’ and later become High Commissioner to Southern Nigeria. The file can be accessed at: < https://web.archive.org/web/20160926171440/http://www.britishmuseum.org/research/search_the_collection_database/term_details.aspx?bioId=37283>.

COL and the Google Cultural Institute's presentation of the materials, in a way that confirms that institutional decision-making practices leave a mark on the object.

Case Study 3: Snuff Sample

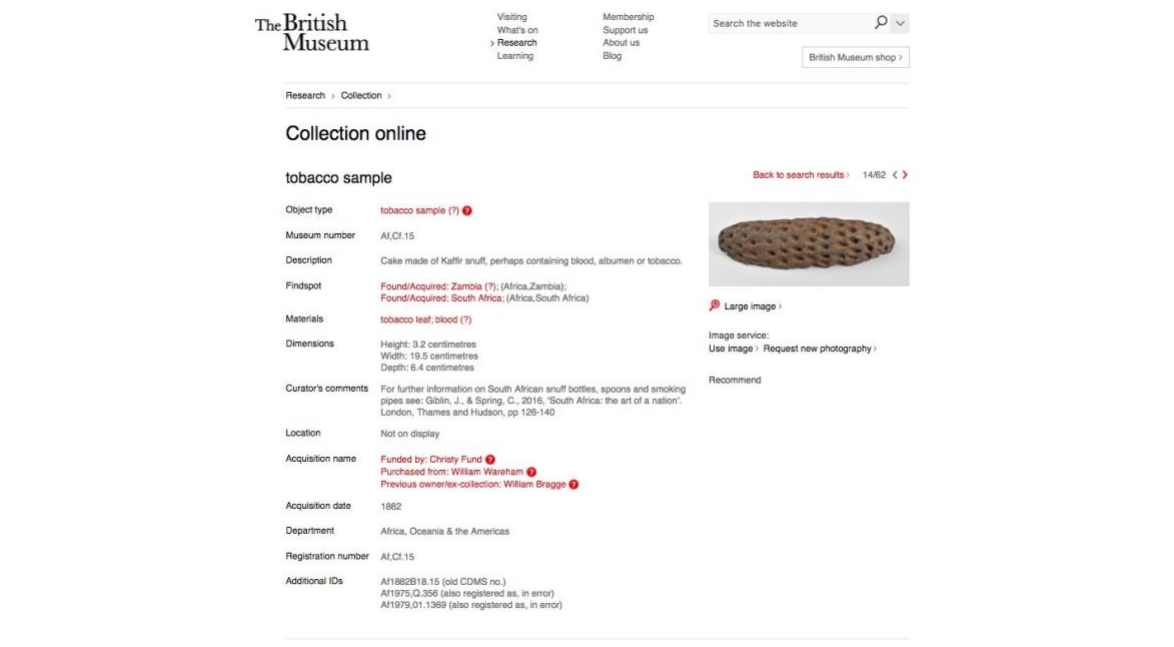


Image 5.3: Screenshot of snuff sample

The third object to be examined in this section serves as a counterbalance to the previous two. It is object Af,Cf.15, a small block of snuff, collected in what is now Zambia in 1882. It caught my attention, because it has three registration numbers, and was twice mis-catalogued. However, it is the description of the snuff which makes it significant. The description reads 'Cake made of Kaffir snuff, perhaps containing blood and albumen'. Turner (2015) has written of the difficulty of balancing universalist public engagement with local historicity in the descriptions of objects, and this snuff sample is an excellent case in point. The term 'kaffir' was used to refer to black South Africans during the colonial and apartheid eras, and has come to be seen as entirely derogatory. So loaded is this term that most South Africans who were to see it in a database would be deeply offended by its use (Turner, p.251). The Smithsonian has included it in its list of Culture Terms Not in Use, and removed it from publicly visible documentation (Gibson and Kahn, 2016). However, a search of the COL using this term rendered 64 results, including fifteen images of South African people, several of whom have been posed in ways which, to the contemporary eye, are deeply disturbing. Five of the photographs include people who are completely naked, and two of these are photos of

young children. In none of the 64 records, is there a note anywhere in the publicly visible documentation that marks the terminology used as problematic. As part of this enquiry, I was able to access a printout of the full record from the Museum, including the non-publicly visible fields, in order to ascertain if there were any notes which made reference to the language used (see Appendix C). Since it was created in 1986, the digital record for this object has been amended eighteen times. No note referring to the terminology could be found.

The act of 'scrubbing' museum records of problematic terminology risks sanitising them of important narratives which describe the circumstances and power imbalances that existed when the objects were collected, and which are valid parts of the object's biographies. At the same time, digitisation offers a museum like the BM the opportunity to use their digital records to supplement existing documentation with the contextual information which explains problematic terminologies like these, and begins to address these imbalances. The absence of this type of supplemental information, which has been used in other museums in the context of this particular terminology (Gibson and Kahn, p.43) reveals how the BM's digital output may be read for traces of a particular approach to record keeping, which may no longer be entirely appropriate for the universality of its reach.

5.9 Conclusion

The objective of this chapter was not to create a blueprint for the digitisation of ethnographic material in the British Museum. Rather, it was to show how the constructive process of digitisation leaves traces on objects, and how it is possible to locate these traces and read in them the Museum's institutional identity. In some digital collections, such as those described by Christie and Were, these traces may be used to reframe historically difficult narratives and help contemporary audiences reconsider the meanings embedded in these objects. In others, such as the objects from the Benin collections, they allow us to track the authoritative voice of the institution as it asserts control over the digital collection. At the same time, the Benin plaque and mask demonstrate that, in the absence of explicit intent for this kind of reframing, the online viewer is faced with a knowledge-gap, which can only be filled by the museum, since, to the museum visitor, it is the authoritative voice. In the case of the British Museum, evidence points to the fact that, despite the new ways of presenting the objects in their collection, and their global ambitions and aspirations, the Museum's interpretations of meaning as it relates to some of the objects in the collection have not changed significantly since the objects were collected and catalogued. This presentation of information reveals a certain perspective on the part of the Museum - an intransigence and

adherence to tradition, which is born out of a century of good record keeping, but may not always be appropriate in the eyes of the global audience who use the Museum's site.

While the Museum is experimenting with different ways and mechanisms for *how* digital cultural heritage may be accessed online, the informational content of these digitised objects (i.e.: *what the objects mean*) is less of a focus, and there has not been as much experimentation with the potential recoding of meanings or narratives. The Museum's authoritative approach, despite the possibilities afforded by digital technology, neatly illustrates Patrick Wright's argument that in British cultural life 'the national past is capable of finding splendour in old styles of political domination and of making an alluring romance out of atrocious colonial exploitation' (Wright, 1985: p.254). The Museum can be seen to be cleaving to Walter Benjamin's assertion that the aura of these objects - those elements that made it unique and which are derived in some ways from the rituals associated with it - would be lost when the object was mechanically reproduced (1936; 2008 edition). This chapter has shown how contemporary scholars and museum practitioners have questioned that, and offered new framings of the question of authenticity. Walsh (2007: p.20) suggests inverting Benjamin's formulation - and argues that it is during the mechanical process of reproduction that the aura is woven around the new iterations of the object. Cameron (2008) suggests that it is the removal of the object from its context which diminishes the aura, while Were (2014: p.160) suggests that rather than think about authenticity as a true/false binary we should consider those boundaries obscured by digital technology and therefore digitisation augments the object rather than detracts from it. These arguments are all useful. However, they presuppose the fact that there is an intentional value-creation which takes place during digitisation which results in richer objects. This chapter has primarily been concerned with the question of what might happen when this intentionality is not translated into explicit provision being made for the additional richness a digital context may contain. Digitisation offers the opportunity to remake an original object in a way which tells us more about itself and its history, and possibly give voice to those aspects of its history that were silenced in the past, and a new framework for reconsidering the object as part of an evolving, complex knowledge space. Rather than existing as a relocated version of the material space, museums have the potential to help define heritage paradigms where culture is not measured by how much of it is online, but by what happens with it online. The content of a digital museum has a role to play in shaping the way we think about the world in exactly the same way the museums of the Enlightenment did, but with the added possibility of reaching more people, and telling more stories.

Chapter 6 – The Digital Transformation of Records

6.1 Introduction

The previous chapter examined what happens to an object when it is digitised; how the information in the object may change, and how these changes may be reflected in the network in which the object is embedded. In this chapter, I zoom out and broaden the scope of examination - rather than considering each digital item itself, the amalgamation of information packets, I will look at the museum documentation, both the formal records in the catalogue, and other forms of supplementary documentation which is presented as multimedia content, and consider them as aggregations of information which convey certain narratives and messages. As well as providing a pool of content from which to see how the Museum's good record-keeping practice shaped the creation and publication of these materials, this approach also allows us to imagine the potential and possibilities presented by digital museum collections. Does providing information about an object that extends beyond the record allow a museum to do things with their objects and records which cannot be done in the analogue version? Or, put another way, can a digital museum do things which other museums cannot?

This rephrasing is significant – the question for this chapter is not a comparison between the different activities that may take place using digitised or non-digitised collections. The intent is to probe at the purpose of a museum, with the BM as the primary case in point, and question whether digital transformation has enabled it to continue serving these purposes, and if so, in what kinds of new ways. This question cuts through all levels of the Museum's activity, from object-based research to preservation and conservation practice, public engagement and knowledge transfer. It requires that we examine how the Museum operates, and then questions whether it is possible to use the same criteria to critique and evaluate a museum in the material world as it to critique and evaluate a digitised one.

In an effort to address these questions, this section will use the conceptual approach of the museum as a contact zone. This approach is frequently used by museum scholars and practitioners, including, as the research will show, by staff at the BM itself. The possibility of creating contact zones in digital museums will also be explored, and this exploration will be framed by certain questions. Specifically, is success as a digital contact zone more straightforward to achieve, or is it more likely to take place in the digital space, than in a brick and mortar institution? Does the networked and interconnected shape of the web make it a space which is more conducive to the establishment of contact zones? Or is the shape of the

web a hindrance rather than a help? Critiques of the original contact zone model will also be explored, and applied to the digital contact zone, in an effort to understand if the same types of obstacles prevent digital museum contact zones from becoming a reality.

For a museum with as large, complex and varied a collection as the BM has, the records, and the information contained within them are, in many cases, the primary way that staff and the public can interact with the collection (Griffiths interview, 27.09). In this chapter, I will draw on the interviews conducted with Museum staff who were responsible for the creation of the Museum's digital database, and current staff who are responsible for the day-to-day maintenance and management of the digital records – the Collection Online. I will also take a deeper look at how these digitised records are presented to the public via three of the Museum's high-profile public engagement projects. The first, *The History of the World in 100 Objects*, was a joint production by the Museum and the BBC, which was broadcast over twenty weeks from January 2010, combining radio, print and web to present one hundred objects to the public in order to tell a narrative of the development of humankind. The second, COMPASS, has already been mentioned – ostensibly a highlights package of five thousand objects, selected by curators and presented digitally, (but not solely online) ran between 2000 and 2007 with the intention of giving visitors a way of investigating the collection via detailed explanations of objects and their contexts. The third, the Talking Objects project, was an object-based engagement project which aimed to bring community groups and museum professionals together to explore the narrative and dialogue potential embedded in the objects (Hogsden & Poulter, 2012). I will show how the Museum's guiding principles of public access and good curatorial practice, translated into good digital asset management in the digital era, influenced the way some of the digital components of these projects were developed. As in previous chapters, I will follow the thread of the Museum's institutional identity in these digital outputs, to show how their presentation online is marked with and by the Museum's personality.

The digital components of all three projects have changed significantly since they were launched – pages have been archived, or in some cases taken offline, and not all links are still live. These changes proved a significant challenge – they resulted in some information becoming suddenly unavailable. They also illustrated how difficult good curatorial and digital asset management can be, in the reality of the web – and how complex it can be to maintain the products of a digital transformation online. They were also instructive - they provided an insight into how the Museum currently presents access to knowledge, and a perspective from which to compare the complex realities of providing this access.

Ultimately, this chapter will make one significant argument – that through a careful reading of the three projects, their documentary outputs, the supplemental information they produced and the digital assets they delivered to the public, it is possible to trace how the formative characteristics of the Museum, namely their preoccupation with good record-keeping, and principles of public access and good practice, also translated into the digital realm. These characteristics may not be as easily evidenced now, as the Museum’s digital profile has shifted, and this in itself is a telling state of affairs.

Secondly, I will show how certain choices made by the Museum as they relate to the preservation and maintenance of these digital products are also indicative of particular decision-drivers. The difficulty that the Museum has with the presentation and preservation of these assets reveals how critical, and difficult, good digital asset management can be to realise on the web, where legacy content is often at risk of loss, and there is an ongoing threat to the access to knowledge.

6.2 Museums As Digital Contact Zones

Since the late 1970s the ‘second museum age’ in both society and state cultural policy has ‘the combined momentum of post-colonial and post-structuralist critiques in the academic community, and political pressures for decolonization outside it’ (Philipps, 2005: p.83). These pressures have pushed museum practitioners towards reorienting museums and rethinking their daily practice to becoming places of inclusivity, consultation, and innovation. These concepts will be familiar to scholars of knowledge production and peer production in online communities (Benkler, 2006; Bauwens, 2005). Philipp’s pronouncement also dovetails with several notable moments in late 20th century museum practice (Boast, 2011). What links these moments and the emergence of a new paradigmatic approach to museum activity, is the shared emphasis on the role of the museum as an institution which provides a range of services to communities which more diverse than the traditional handful of learned experts who used them in the past. Implicit in this broadening of scope is the idea that museums can have an influence on social practice through the shift from being a place where singular expertise and knowledge were collected and displayed, to a place where public, and specifically educational engagement, is prioritized. Duncan (1994) and Turner (2004) argue that cultural citizenship is a key component in the development of the politics of national identity and that museum, gallery and heritage strategies in general have a foundational role in developing a sense of cultural inheritance and citizenship.

Robin Boast argues that at the core of this realignment, particularly in museum studies, but also in how museum practice is actualised, are a series of assumptions about the social and political nature of how knowledge is produced and reproduced in museums (Boast, 2011: p.58):

- (i) Knowledge is fundamentally relative, and the nature of reality is dependent on the perspective of the observer
- (ii) The way an individual comes to know something is an inherently social process, involving multiple discourses in overlapping networks
- (iii) Knowledge claims take the form of narratives by which the nature of objects may be understood, explained or accounted for
- (iv) Knowledge is knowledge of or about objects, and objects are things of or about which the knower knows.

If knowledge can be said to be embodied in objects, then engagement with these objects is a necessary condition for the generation of knowledge. This engagement is not necessarily initially harmonious. Contact zones - the social spaces first proposed by Mary Louise Pratt in 1991, where 'cultures meet, clash, and grapple with each other, often in the contexts of hugely asymmetrical relations of power, such as colonialism, slavery or their aftermaths as they are lived out in many parts of the world today' (Pratt, 1991: p31) are a case in point. While Pratt was not referring to museums specifically in her essay (it was a keynote address to a conference on literacy and language acquisition) this concept was quickly embraced by theorists working in the fields of museum studies. James Clifford proposed that museums become places of contentious and collaborative conversations and of encounter, exchange and connection between people in a globalised world (Clifford, 1997). This framing was widely accepted by museum theorists and practitioners (see Macdonald 2003, Whitcomb 2003, Mason 2004, Philipps 2006 and Shelton 2006) all of whom have explored the various questions related to how museums might transmit, communicate or reinvent themselves and their material holdings as spaces and catalysts for conversation, and who have used the framing of the contact zone as a basis for their discussions.

Museums reimagined as contact zones are spaces of great potential, which is not always easy to realise. They have the potential to give a voice to communities whose artefacts have been languishing in museum stores since they were collected, (sometimes as a result of transactional encounters which were not always consensual). As Philipps argues with reference to the particular case of Canadian anthropological museums: 'new models of

partnership and collaboration are creating ever more opportunities for Aboriginal intervention into the traditional orientation of the Western museum' (2006: p.96). In the museum-as-contact zone, new biographical narratives can be built around these objects which allow the museum visitor to learn more about the source communities, but also about the society that mandated their collection in the first place - a part of the narrative which is often left untold in museum documentation. 'Artefacts in museums,' argue Peers and Brown 'embody both the local knowledge and histories that produced them, and the global histories of Western expansion which have resulted in their collection, transfer to museums and function as sources of new academic and popular knowledge' (Peers and Brown, 2003: p.4). Some writers have even gone so far as to describe the potential of the contact zone in the language of redemption (Dibly, 2005) - as a model of what a museum can and should be, and the framing of the museum-as-contact zone has been posited as a solution to the problem of many of the institutional criticisms and biases laid at the feet of Western museums, from sexism to imperialism.

However, this approach is not without its critics. Tony Bennett argues that the contact zone is merely another mechanism for museums to control the discourse around culture, and it enables them to continue to 'beam their improving messages of cultural tolerance and diversity into civil society as far as they can reach (Bennett 1998: p.213). For Boast, museums have failed to fully exploit their potential as contact zones because questions of reference, appropriateness, and legitimacy are framed by the point of view of the party in authority, in this case, the museum itself. Using the example of a sculpture garden at Stanford University, which was built by artists from Papua New Guinea, who made the sculptures *in situ*, before returning to their home islands, Boast argues that the 'neocolonialism of the contact zone threatens to destroy the very empowerment it is meant to engender' (2007: p.57). He goes on to argue that his four assumptions (outlined above) have, by and large, been co-opted and framed by the professional roles of the museum educator and the museum marketing manager, resulting in a narrowing, rather than a broadening of the audience with which the museum engages. This, he argues, is despite the fact that curatorial staff are well aware of the implications of acquisition, preservation and public display of certain objects for the affirmation of certain identities and the need to continually review and appraise the results of such decisions and selections (p.60-61). Ironically, as argued by Srinivasan *et al* this expertise itself is being eroded by the professionalization of museums, with the unintended consequence that the 'expert curator' is increasingly being replaced by professional collections managers, information officers, and displays artists, who use museum objects as illustrations for larger education objectives, rather than as specimens with individual value. This results in

a loss of appreciation for the cultural significance of the objects and a devaluation of the contexts in which the objects may be embedded (Srinivasan et al, 2010). Some have taken the argument further and suggested that for contact zones to be successful, there is a strong case to be made for the zone itself to move out of the museum. Any contact which involves 'inreach', or the inviting of communities into museums for discussion and debate, or to allow access to collection materials held in store will, by association, suffer from the institutionalisation of the zone itself (Hogsden & Poulter 2012). Thus, any attempt to create a space for equal, nuanced and collaborative interaction requires the locus of activity to move beyond the walls of museum. With these critiques in mind, the move to locate the contact zone in the digital rather than the material world offers the promise for realising the remedial potential of a new approach to museum objects.

The growth of museum informatics means museums are no longer restricted by historical constraints such as space and time, which have confined artefacts and collections to individual museums or galleries. Using digital surrogates, museum visitors can interact with artefacts from diverse collections, regardless of the physical location (Marty 2007, Adams et al, 2001). The appeal of the digital contact zone is not limited to bypassing the constraints of physical space. Within the zone, digital objects and their networks offer the possibility of new modes of interaction, and new interpretations of the objects themselves, as was discussed in Chapter 5. The infinitely reproducible and shareable nature of digital museum objects means that they can be embedded with layers of specific contextual information, which would increase the number and nature of stories an object could tell (Patel et al, 2005). If meaning is indeed embedded in objects (see Macdonald, 2011, Pearce 1994), then digital objects, with their almost limitless capacity for embedded information, have the capacity to offer a variety of possible meanings and interpretations.

Scholars who work on the mapping of museum documentation have realised this potential in the realm of museum documentation as well. The idiosyncratic way in which museum documentation practice has developed as both highly structured, and at the same time ad hoc (Parry, 2007; Lampland and Star, 2009) has made it possible to consider museum documentation from a critical perspective (Turner, 2015; Beltrame, 2013; Beltrame 2016) and consider the experiment of approaching museum documentation as a contact zones. The web is a place where knowledge is not produced in top-down hierarchies, but rather in lateral networks of peers (Benkler, 2006). The position of the 'expert' has been brought into question by projects such as Wikipedia, which allow anyone to contribute to the formal body of knowledge on a particular subject, with peer approval. Digital methods, such as crowd-

sourced tagging of objects which have been digitised *en masse* offer the opportunity for deeper engagement with cultural heritage (Ridge, 2013) and social media such as Twitter and Instagram offer a pool of user-generated content and hashtags for harvesting responses, opinions and reactions from, as well as engaging with, users (Smørðal & Stuedahl, 2014) and museum visitors. A museum's web presence has become complimentary to the physical exhibitions and collections, and museum informatics has generated a growing body of research which examines the way in which technology has been deployed in museums over the past decade (Marty, 2003), and how visitors and museum professionals alike interact with this technology (See Kravychna & Hastings, 2002; Thomas & Carey, 2005 and Marty, 2007), both in preparation for, and as a compliment to, their visits to a museum. However, little has been published on what impact digitisation and digital technology might have on the nature of the information being published, and the way this may impact or change the interpretations of the information. By examining how users of the British Museum's online products are able to access the knowledge (ie, the information contained in the object records) this research aims to address this gap. At the same time, having established that Museum's institutional identity is woven in to the records, this research will also show how the personality of the BM leaves its mark on the digital outputs, thus broadcasting its identity via the web.

Sarah Kenderdine (2007), Fiona Cameron (2010) and Robin Boast (2011) have explored how the framework of the contact zone might apply to both museums on the web and digitised museum objects. Carl Hogsden & Emma Poulter (2012) applied these approaches specifically to the British Museum during their 'Talking Objects' project, which is also part of the this section's investigation. These approaches provide a useful theoretical background to an examination of three of the Museum's public engagement projects which could be said to be experiments in manifesting a digital contact zone – specifically The History of the World in 100 Objects, the Talking Objects project and COMPASS. As a counterpoint, I will also examine the ways in which the Museum's Collection Online (COL) can be seen as functioning as a type of digital contact zone. Finally, by way of comparison, I will also look at another museum's experimentation with the concept of the digital contact zone.

6.3 The Projects

All three of the projects discussed were launched in the early 2000s, at a time when the Museum was beginning to experiment with digital and online interaction with visitors in ways which included and also extended beyond the records available as the Collection Online. While the digitisation of the catalogue had been a long-term project in the Museum since the 1970s,

the notion of putting the collection records online was one which only came about fairly late into the incursion of the web into the museum world. It took the Museum until 2007 to release the COL, and in the meantime, they experimented with other digital projects, which required and produced different types of information (Griffiths interview, 25.20).

COMPASS was the first project to come into being and was launched in 2000. While Chapter 4 has provided some contextual background to the history of the project, and Chapter 8 provides a detailed analysis of the project from the theoretical perspective of the boundary object, this chapter will take a closer look at how the information relating to these objects was presented, and arranged, and this significance of this from the perspective of the museum's records and cataloguing practice. COMPASS consisted of five thousand objects from the Museum's collection which were selected as highlights and intended to be displayed in the round Reading Room of the Museum, on custom-built kiosks with large screens. Each object was presented with additional text which explained the significance of the object in more detail, and contextualised its place in the Museum's collection. This text was written specifically for each object, and was not necessarily drawn from the collection records. In fact, the two existed as completely separate entities – COMPASS records were part of the Museum's Content Management System, and not integrated with the MERLIN records at all (Stribblehill interview, 30.52) and initially there were no internal links between the COL (or its backend, MERLIN) and the COMPASS materials, since they were entirely outward facing and served no internal curatorial purpose.

In 2015 the images of the objects and their accompanying texts were taken down from the Museum's site, and relocated to the Google Cultural Institute. A microsite, called Museum of the World, and branded with the British Museum and the Google Cultural Institute's branding was developed (www.britishmuseumwithgoogle.com) and some of the five thousand objects were presented as nodes in a timeline ranging from two million BCE to 2000 AD. The timeline contains four themes: Art and Design, Living and Dying, Power and Identity, Religion and Belief and Trade and Conflict, and is arranged chronologically by region (Africa, Americas, Asia, Europe, Oceania). Each object node is clickable, and opens a window showing the image of the object, an audio clip of curator describing the object, a Google map reference to where the object was found, and clickable image links to other, related objects in the microsite (see Image 6.1 below). However, no links exist between the microsite and the Museum's COL.

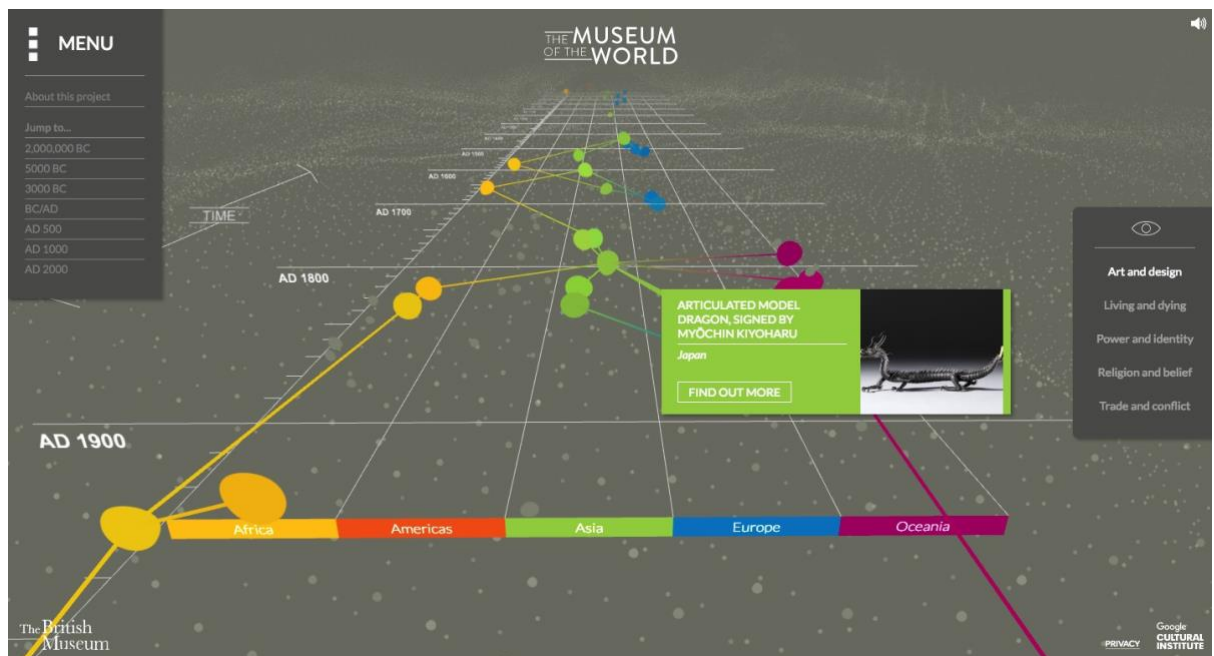


Image 6.1: Screenshot of the Museum of the World microsite and a Highlight Object

A History of the World in 100 Objects was a project co-produced by the BBC and the Museum and broadcast on BBC Radio 4 in 2010. The material from the radio broadcasts was later compiled into several books. One hundred objects were selected from the collection (all of the hundred were also originally COMPASS objects) and used to tell a narrative history of humanity from prehistoric times to the present. The list of objects is presented in Table B, Appendix C. This narrative was told using three media - radio broadcasts in BBC Radio 4, the objects themselves, which were displayed in the Museum, and online, using a specially-created website. Each object was the subject of a fifteen minute radio broadcast, narrated by then-Director MacGregor, who was joined in some episodes by invited guest such a Keeper from the relevant department at the Museum. All the objects were displayed in the Museum galleries, with special interpretative texts alongside them, and the branding of the project to mark them out. The online component consisted of a specifically designed website, which acted as a hub for all the online activity and content which was generated by the project. Not only was the material provided by the Museum and the BBC kept here, but the public and other museums were also encouraged to submit objects and stories during the duration of the collaboration. The site was branded with the Museum and the BBC's branding, but critically for this research, the site was part of the BBC's overall website: <http://www.bbc.co.uk>. Each page featured links to other themes and objects in the collection, audio podcasts of each episode after they had aired, links to other museums which participated in the project, and other BBC radio broadcasts which were related to the topic in some way. By the time of writing, these pages

had been archived by the BBC – they were are no longer updated, but the content remains accessible and the links are, for the most part, live.

The decision to host the web content on the BBC's site gives an insight into the role of the online component as imagined by both the BBC and the Museum. As Matthew Cock, then Head of Web at the Museum wrote at the time: 'At its core, the website was developed to support and extend the radio programmes.' (Cock, et al, 2011) so the hosting of the bulk of the content on the BBC site was a logical step. Access to the object on the Museum's site was provided by a link to the Highlight page, which provided more contextual information, bibliographies, and a link to the object's record on the Collection Online database, as well as reciprocal link to the object's episode. Cock points out that this interlinking between two sites posed a risk to the Museum's own web traffic, but shows that, in the period during the project, traffic to the Museum's site actually went up by over 200%. However, he also points out that rather than being a result of users moving from the one site to the other, referral traffic to the BM site only went up by 4%. He argues that search engine traffic (ie: people using a service such as Google to look up keywords heard from the programme and then following the results to the Museum's site) was the main source of visitors to the Museum's site.

A History of the World was not the first time that the two public institutions of the BBC and BM worked together to create a broadcast and exhibition tie-in (Ibid). But the degree to which the two institutions shared expertise and assets was unprecedented. And while they may have worked closely together, the Museum's established, good curatorial practice (which has been discussed many times before in this thesis) was a thread which ran through the project and shaped it in subtle ways. As Cock points out: '...the website was built on the BBC's platform and funded by the BBC, but the taxonomy and the user interface were devised together and signed off jointly.' The standards which informed the good record keeping at the BM, and the good digital asset management which shaped the creation of the Collection Online, also informed the knowledge arrangement in the History of the World online.

The Talking Objects project ran at the BM between 2009 and 2011. This project was described as 'an object-based engagement programme connecting participants with museum collections and curators'⁶³ Led by Carl Hogsden and Emma Poulter, whose papers 'The Real Other? Museum Objects in Digital Contact Networks' (*Journal of Material Culture*, 7:3 2012) and 'Contact Networks for Digital Reciprocation' (*Museum and Society* 10:2 2012) have been

⁶³ Talking Objects Project Page:
<https://web.archive.org/web/20160926171601/http://www.britishmuseum.org/about_us/community_collaborations/partnerships/talking_objects.aspx>.

essential in the analysis, the Talking Objects was developed by the British Museum as a methodology for bringing objects and people together, to 'create dialogue by instigating engagements and interactions with singular objects in museum collections'. The programme brought members of the public, museum curators and creative practitioners such as artists and poets into contact with objects selected from the Museum's collection in order to examine the meanings and histories of things. At the end of each museum-based project, participants presented their views on the object, and its contemporary relevance alongside museum staff. The process, and resulting conversations were recorded and edited into five-minute films which were made available online on the British Museum's website. At the time of writing, nine objects and their resulting videos are available for viewing and download on the site⁶⁴. They were the Ain Sakhiri Lovers Figurine⁶⁵, Katsushika Hokusai's 1831 woodblock print Under the Wave off Kanagawa, more commonly known as The Great Wave⁶⁶, The Throne of Weapons, a chair made from welded AK-47s⁶⁷, a jade terrapin from Mughal dynasty India (c. 1600⁶⁸), an Ice-Age carving of two swimming reindeer, carved out of a single mammoth tusk⁶⁹, a 19th century Sikh Warrior Turban from the Punjab⁷⁰, The Ife Head, a cast brass head made in what is now Nigeria in the late 14th or early 15th centuries⁷¹, the Mechanical Galleon, or nef, a mechanised table ornament from 15th century Germany⁷², and a Sowe mask from Sierra

⁶⁴ British Museum YouTube Channel:

<<https://web.archive.org/web/20160926171849/https://www.youtube.com/user/britishmuseum>>.

⁶⁵ Museum Object Number 1958,1007.1, online catalogue reference

<http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=1358965&partId=1>.

⁶⁶ Museum Object number 2008,3008.1.JA, online catalogue reference

<http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=3097579&partId=1>.

⁶⁷ Museum Object number Af2002,01.1, online catalogue reference:

<https://web.archive.org/web/20160926172025/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=1358965&partId=1>.

⁶⁸ Museum Object Number 1830,0612.1, online catalogue reference:

<https://web.archive.org/web/20160926172207/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=218365&partId=1&searchText=jade+terrapi&page=1>.

⁶⁹ Museum Object number: Palart.550, online catalogue reference:

<https://web.archive.org/web/20160926172355/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=808748&partId=1>.

⁷⁰ Museum Object number 2005,0727.1.a-p online catalogue reference:

<https://web.archive.org/web/20160926172511/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=1573299&partId=1&searchText=sikh+fortress+turban&page=1>.

⁷¹ Museum object number Af1939,34.1, online catalogue reference:

<https://web.archive.org/web/20160926172635/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=618380&partId=1&searchText=Ife+head&page=1>.

⁷² Museum object number: 1866,1030.1, online catalogue reference:

<https://web.archive.org/web/20160926172750/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=51924&partId=1&searchText=nef&page=1>.

Leone made to be worn during female initiation ceremonies and dating from the 1880s⁷³. In the case of each object, groups of young people who were affiliated with various community projects were invited into the Museum to look at the object, discuss it with curators and other facilitators, and ultimately create a form of creative interpretation of the possible meaning of the objects. These ranged from dance and dramatic performances to animated films and poems. Some of these groups shared cultural affiliations with the objects - for example the group who examined the Sikh Warrior Turban were part of the Sikh Educational Council, while others were part of general youth development schemes. The short documentary films which charted these processes are each available to stream and download from the Museum's Channel page on its website.

Table B, in the Appendix provides an overview of all the objects that were selected for the History of the World project, and notes where they were also featured as Talking Objects and COMPASS highlights. While all the objects included in A History of the World were part of the COMPASS subset, not all of the Talking Objects were part of A History of the World. The table also shows which objects had new documentation created for them and where this documentation could be accessed from, and whether it is still available.

6.4 Missing Links in the Museum

In analysing how the arrangement of information in these three projects can be said to facilitate access to information and the creations of a digital contact zone, the most important fact to note is that, as of 2016, none of the extended object biographies or text from the COMPASS project can be accessed via the Museum's website. In a 2016 partnership with the Google Cultural Institute, the Museum transferred all the COMPASS records to Google, and removed the Highlights pages from their site. In practice, this means that following any links from the BBC History of the World hub, or the Talking Objects pages takes the user to a static page, directing them to the Google Cultural Institute. Following that link in turn takes the viewer to the front page of the Museum's collection on the Google Cultural Institute, which presents an aggregations of over six thousand objects. So no direct link exists between the object on the BM's site and the Google site. This makes locating the original text and records

⁷³ Museum object number Af1886,1126.1.a-b, online catalogue reference: <https://web.archive.org/web/20160926172855/http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=634670&partId=1&searchText=sowei+mask&page=1>.

extremely difficult, without referring to the Internet Archive or any other web archival source. It is an early indicator that, for the Museum, the maintenance of knowledge on the web is a challenge which requires external partnerships, but has no guarantee of longevity. As Tanya Szrajber and Julia Stribblehill point out, this caused some confusion:

‘JS: They [the COMPASS records] were entirely outward facing.

TS: And now they're on Google Cultural Institute. And of course, we can't... you used to be able to access them. The joke was, and Julia and I have been going on about this for years: people going to the website thought, ‘Oh, hello, that's our collection database,’ but it wasn't the collection data. We had told the Head of Web many years ago, ‘Can you do something about this, because it's hitting the wrong thing, so they get the five thousand but not the others.’ [32.16]

But now I think they've completely removed them... But the Google version is not the same text, as the original version is it, Julia?

JS: It's based on the same text, but some of them have been revisited, but most of them haven't.

TS: And can we get to that from the BM website? No, it's the other way, isn't it?

JS: No, but we do have a link back to us. And to the Collection Online.’

The critical difference between COMPASS and the Collection Online was that the texts accompanying the COMPASS highlight objects was not necessarily the same as the notes and descriptions which existed in the object's catalogue records. As Anthony Griffiths remembers it:

‘But the texts that were written for those five thousand objects had to be written quickly, *ad hoc*. They were not written by curators... every department had to choose its five hundred objects, which was fairly easy, and then someone had to write the records. So we all rang up people we knew and said, ‘It's fifty quid an entry’ and that's how they got written, and they're as good as the person writing them. They had no instructions, no controlled vocabularies, nothing like that. You just wrote whatever you thought Joe Public wanted to read about this object. In a void. It wasn't related to anything else. That may explain many of the peculiarities.’ (Griffiths interview, 30.00)

The peculiarities he refers to may have arisen as a result of the lack of controlled vocabularies or terminologies, which would have been automatically applied, if the COL records had been used as the basis of the COMPASS texts, or if they had been created as part of the database. However, their status as separate entities resulted in disconnected sets of information, which, regardless of quality, were not linked, at least initially. From a record management perspective, this presented some problems, as Szrajber and Stribblehill recall:

SF: *But COMPASS was a different approach, right?*

JS: COMPASS was about five thousand records, which were specially written. They weren't from the collection database records. They were actually in the Content Management System, rather than in MERLIN or anything like that.

RK: *So, COMPASS was created as a separate entity from what was, at the time, MERLIN?* [30:52]

TS: Yes, and separate funding. People were paid to do the research and writing, and it was a different project. And Julia, luckily, got the links created, because at one point they weren't even linked to our records.

JS: Oh yes, they were completely separate beasts.

SF: *But still within the museum? Or partly external?*

JS: At the time they were within the museum [31:18]

But they were on the content management, rather than the collection management system. And they were designed far more as contextual, educational, external-facing records, information, rather than internal, which was then shared. So, there was a lot more about the context.

These quote are telling as they reveal that, behind the scenes, much of the object-related information in the Museum was contained within sealed-off silos, and at times was recreated on the fly. This is in contrast to the approach taken by the Collection Documentation Committee, which tried to avoid duplication and replication as much as possible when designing the database and encouraging curators to add to the existing records (Griffiths interview, 48.2; Szrajber & Stribblehill interview, 54.30).

During the interviews, all three of the museum staff highlighted the scholarly value of the COL records. As the internal tool from which Keepers and other museum staff work day-to-day, the records represent the most up-to-date and detailed information available about the collection. They also represent the best way for staff to get to know the collection, much of which is kept off-site. The decision, in 2007, to publish these records as-is to the public, regardless of quality was ground-breaking, and gave the public the opportunity to use the same resources that the Keepers use to learn about the collection. All three interviewees referred to the Museum's status as a public institution as one of the significant factors in this decision. Not only did the online publication of the database as the Collection Online allow them to fulfil that mandate, it was also expedient. By opening up the records to the public *en masse*, they were able to save themselves the time and effort required to go through over eight million records, checking for quality or other criteria. This is an example of the Museum's heritage of good museological practice and sense of duty writ large, to the tune of millions of records.

This being the case, the lack of links from the various public-facing online offerings from the Museum and the COL is significant.

The Talking Objects pages for the objects which were also part of COMPASS or *History of the World* do not contain hyperlinks to the catalogue records either. This means that in order to examine the catalogue record and the digital image of the object, it is necessary to navigate to another page via a search interface, for example either Google or the COL search page. Not only does this interrupt a user's browsing experience, but it leaves this rich content isolated and difficult to find. Without prior knowledge of the content, the absence of a hyperlink means that a user who is exploring the Museum's catalogue and objects may be left unaware that the Museum has this type of complimentary content available.

However, in the case of the Ain Sakhiri lovers, the Great Wave blockprint, the Ife Head, the mechanical galleon and the Throne of Weapons, there are links from the Talking Object pages to the History of the World hub – ie: outside of the Museum's website. This absence of internal links is not just a navigational inconvenience. If we consider the Internet to be, essentially, a 'network of networks' (Berners-Lee, 1999) then hyperlinks, the mechanism by which nodes connect in the networks are the basic structural basis of the web. Hyperlinks allow individuals or organisations, represented by websites, to build relationships for communication that crosses the online/offline boundary (Park, 2003) thus elevating hyperlinks from being merely technological tools to social channels, which may be analysed like any other social network.

In online network analysis, hyperlinks represent the distance between different actors within a network. They also represent a system of ranking connections and contribute to an emergent hierarchy of the positions of different actors within networks. Through the use of hyperlinks, individual websites have the capacity to influence other website's trust, prestige, authority, or credibility and can be proxies for the relational networks between people, organisations, or nation-states (Ibid). Thus, we can interpret the social or communication structure among those social actors based on the hyperlink structure that links them. Through their analysis of hyperlink 'micropolitics' Marres and Rogers (2000) have shown that organisations tend to show a proclivity towards the 'politics of association' (Rogers, 2015: p.28) linking to similar projects and self-generated initiatives. These links are not merely connections between different players, they have become representations of reputation - the configuration of link networks may be seen as a source of conveying useful overall information about the relationships of online communication networks in interpersonal, inter-

organisational, and international settings (Park & Jankowski, 2008: p.61). By linking to and from each other, actors in online networks validate, consecrate and reinforce each other's position and standing within the network.

Like all activity in the Museum, the choice of who to link to is not inadvertent. The decisions about when to link, when not to link, and when to remove links – processes which Rogers calls the 'professionalization of hyperlinking' (2013: p.44) – have political and sociological implications which may be interpreted, even if the reasons are difficult to uncover. If reputations can be characterised by the type and quantity of hyperlinks given and received, we then have to ask 'What is the British Museum telling us when it does not include any links between the videos created as part of the Talking Objects project and the objects catalogue record on the Museum's website?' One possible interpretation is that although the medium offers the potential to create new links between existing forms of content within their web domain (such as the COL and the Talking Objects objects) the Museum has chosen to prioritise links to external institutions, such as the BBC and Google. This results in links which appear to prioritise entrenched dynamics of authority and expertise. If we return to Bourdieu's theory of cultural capital as a tool for trying to understand this state of affairs, his argument that the key to understanding museum meanings, namely the cultural capital, an asset which is accumulated over time and which is socially and unequally distributed and whose unequal distribution is reinforced from one generation to the next by schooling (Bourdieu, in Halsey, Lauder, Brown and Wells, (eds) 1997) would seem to make the case that there was a conscious choice to prioritise the expert interpretation over the amateur because it is a way of consolidating cultural capital. As Rogers (2013), Park and Jankowski (2008) and Park (2003) have shown, not all links are equal, and there is a sociality to the creation of links which may have intended and unintended consequences.

In their concluding analysis of the Talking Objects project, Hogsden and Poulter argue for the need to move the conversations about objects outside of the context of the museum: 'When Talking Objects projects take place within the context of the British Museum they will always be centralized, aligned with the agenda of the Museum and its funders, and mediated by this institutional context.' They also argue that, because of their capacity to catalyse discussion and generate debate, digital objects can and should be seen as 'real' objects, with their own ways of being and acting in and upon the world. I would go further and argue that this critique is equally applicable to the way the digital versions of these objects and the multimedia content generated by the project are hosted and displayed on the Museum's website. The absence of links between the catalogue pages represents a failing of the Museum

to establish the type of environment within which a digital contact zone might emerge, with the effect of chilling potential debates and discussions in favour of the Museum's expert interpretations.

What the examples of the Talking Objects show is that digitised museum objects have the capacity to catalyse debate and activate actors within social networks on the web. Institutions like the British Museum, which have a particular social status in the real world, also have a mirrored status online, which is partly reinforced and bolstered by the number of hyperlinks between it and other institutions and actors on the web who in turn are able to increase and decrease their status through linking to the Museum, within a larger cultural heritage network. Through the choices the Museum has made in terms of who it chooses to create internal links to, the BM has an impact on the types of identities projected online – in the case of the Talking Objects project, preferring institutions like the BBC over internally created content which consists of user-generated, amateur perspectives. The contact zone, in this case, is still mediated by the Museum, who maintain control of the narrative, despite the fact that debates are taking place outside, in other zones, which make use of their content. By way of comparison, I will now describe a museum which takes a different approach to their role in the digital contact zone, and have structured their digital collection to include multiple pathways for creating contact zones within their webspace and externally. It also shows to demonstrate Hogsden and Poulter's assertion that digital objects absorb realistic properties, one of which is the capacity to have impact on the world.

6.5 The Powerhouse Museum, Sydney – Comparison and Analysis

The Powerhouse Museum in Sydney is the major branch of the Museum of Applied Arts & Sciences in Australia. While its official designation is as a science museum, the collection includes a diverse range of objects related to the decorative arts, transport, furniture, photography and other media, computer technology, sport and communication. For the purposes of this research, the Powerhouse offers a useful counterpoint to the British Museum for several reasons. Firstly, although its collection is much smaller, with around 500 000 objects, to the British Museum's eight million, the scope of the collections is similar. While officially, the Powerhouse's holdings focus on 'technology, engineering, science and design'⁷⁴ in

⁷⁴ About The Powerhouse Museum:

<<https://web.archive.org/web/20160926173104/https://maas.museum/about/>>.

reality their collection includes numismatic material, anthropological specimens, botanical specimens, and a range of special collections, including lawnmowers, ceramics and wool.

By the museum's estimate, about 70% of the collection is online⁷⁵, and the level of descriptive detail provided in the object records vary. Some objects are accompanied by lengthy object statements, statements of significance, production notes and history notes, such as those accompanying a kitchen appliance - Breville Juice Fountain Juice Extractor⁷⁶ These notes are included as supplementary or in addition to the object's actual catalogue entry, which is also available on the page. As such, the supplementary notes are provided in a narrative format, and do not follow a prescribed or restricted vocabulary of terms. Other objects, such as a one gulden coin⁷⁷, from the numismatics collection, have only a brief object statement accompanying the formal record. For the casual browser of the museum's website, the value of the longer descriptions is in their contextual information. In the case of the Juice Fountain, we are able to discover why the design of this particular make was significant (to wit: this model solved the problem of having to manually cut up the fruit by 'providing a stationary knife to cut the fruit and vegetables, and thus preventing the rotation of the food inside the round feed tube resulting in more thorough and faster juice extraction and setting the standard for future industrial design). In the case of materials which could be considered ethnographic in origin, the extensive notes add a much deeper layer of understanding, as well as providing information about the makers, where possible, and the contexts within which they were created. For example, a possum-skin cloak⁷⁸ created by Aboriginal women in 2007 using traditional methods, and created in response to seeing other cloaks in a different museum, is accompanied by the following statement of significance⁷⁹:

This possum skin cloak by Lee Darroch (Yorta Yorta, Mutti Mutti and Trawlwoolway) and Vicki Couzens (Keeray Wurrnong, Gunditjmara) reflects the long term possum skin cloak revitalisation project which is currently underway in South-Eastern Australia. It is of special significance to New South Wales as this cloak was the first to carry the revitalisation journey north of the Victorian border. Its design, which tells the story of women's life journeys, features a large spiral, the universal symbol of birth, life, death and rebirth, with tendrils representing bloodlines. [...]

⁷⁵ <<https://web.archive.org/save/http://www.powerhousemuseum.com/collection/database/about.php>>.

⁷⁶ Object registration number 2002/71/1 persistent URL <<http://from.ph/11554>>.

⁷⁷ Object Registration number: 2008/203/1-53 persistent URL <<http://from.ph/380576>>.

⁷⁸ Item registration number 2011/60/1 persistent URL <<http://from.ph/416687>>.

⁷⁹ The length of the statement is what makes it worthy of inclusion here, as is the fact that it is a good illustration of how the Powerhouse museum exercises the idea of the digital contact zone within their online spaces.

The makers of this cloak, Darroch and Couzens, together with Vicki's sister Debra Couzens (Keeray Wurrong, Gundijtmara) and Treahna Hamm (also Yorta Yorta), saw two of the few surviving early cloaks in the Melbourne Museum. After viewing the cloaks, the women experienced a spiritual vision which guided them to recreate those cloaks. As part of that vision, they wanted to ensure their children's children would not forget the great cultural importance of the cloaks to the Aboriginal people, and so the revitalisation project was born. They travelled to all of the 38 language groups in Victoria and taught them how to make a cloak relevant to them; 36 cloaks were produced and were worn by Aboriginal Elders at the opening ceremony of the Melbourne Commonwealth Games in 2006. Lee Darroch has commented that 'the cloaks have slowly come back into use as a normal part of welcoming ceremonies and at funerals' and that the old stories told by the cloaks have started to come back. Vicki Couzens speaks of the significance of the revival of this craft to Indigenous Australians: 'The best thing is that every Aboriginal person that tries on a cloak, stands proud and tall. They can't not. You're sort of wrapped in your country. That's the feeling.'

This level of extra detail does not just add object-specific information to the digital record. The contextual information describing of the creation of the object, the narratives of the people involved in the making, and the socio-cultural context within which it was created and used and the significance of the object to the community it represents are all included. These aspects alone are good examples of how the characteristics for a digital contact zone can be represented in the online representation of a museum's collection. However, I would argue that the Powerhouse has also successfully managed to encourage dialogue through the information architecture of their website. The museum also extends the contact zone beyond their online collection and the viewer, and into the greater space of the web through their provision of short, persistent URLs for every object, which ensures that the URL remains stable and the object locatable. On each object's page, there is also a block of wiki-markup language. This includes the URL, the title or name of the object, the name of creator and a link back to the museum. This makes it simple for anyone to embed a link to the object's page on the Powerhouse website into a wiki-based website, such as Wikipedia.

Searching the museum's database is possible via five different entry-points on the Search page, which offers users the following tabbed options for searching and browsing the collection:

'Search', which opens a general search page, 'Browse Categories' which allows users to search the collection via 75 categories, which correspond to the museum's own formal object categories, 'Browse Tags' which allows users to search the collection online via the tags added by other users to enhance the object records, 'Browse Themes' which gives users the option to explore different objects which have been grouped into themes by museum curators, and include related object records and 'Special Collections' which show the 227 special collections in the museum. There is also a tab titled 'API, Data Access and 3D Scans'. On this page, users can request an API key for direct access to the database, ten ZIP files containing STL (Stereolithographic) files of 3-dimensional scans which can be printed out as 3D objects or remixed, a downloadable WordPress Plugin which allows anyone to embed museum objects and their records into personal blogs using the WordPress platform, and a simplified dataset of the basic metadata for the museum's collection. In a paper explaining the process of developing the museum's website, Sebastian Chan (2007) notes that the inclusion of user-generated tags was an attempt by the museum to crowd-source tags for much of the collection which, once digitised, was under-described. An unintended consequence of this was the emergence of new user-generated terms for objects, which were unlikely to be included in any formal vocabulary, but which add to the discoverability of the objects. Another outcome has been the relatively high number of tags added to objects which are not on display in the museum, but rather are kept in store. By opening the collection to users and inviting them to add tags the museum has managed to locate the contact zone outside the physical space of the institution, but within a larger framework of knowledge which includes these objects, and therefore the museum as the repository. Indeed, in this context the museum's model of knowledge organisation in this case can be seen to indirectly mirror the characterisation of indigenous knowledge organisation as 'dynamic, heterogeneous, social, and distributed; experimental, collective, and in the process of continuous adaptation and negotiation' (Van der Velden, 2010: p.6).

As the description above shows, there are significant differences between the way the British Museum and the Powerhouse Museum present the information about the objects in their collection, and what types of information are presented. While contextual information is explicitly sourced from the public and presented by the Powerhouse, even though the cost of this in terms of museum staff hours may be high (Chan, 2007), there is less of this available at the BM's site. The histories of the COMPASS, Hundred Objects and Talking Objects attest to the fact that contextual information was commissioned, produced, and presented online at various points (Griffiths interview; Cock, 2011, Hogsden and Poulter, 2012) . However, due to a

lack of links within the Museum's own internal data model (Szrajber interview, 30.52) this content is not reflected in the Collection Online database. Since the COMPASS and Hundred Objects projects have been archived, with, in the case of COMPASS, some loss of a considerable amount of information, the Collection Online remains the central online place where users may interact with objects, and at the time of writing, it can be argued that inaccessibility of the contextual information renders these records, in a sense, incomplete.

Another key difference between the way digital objects are presented by the British Museum and the Powerhouse Museum is how connected they are to the wider networks of the web. By making objects in their collection open to search and programming the objects into larger, online collection aggregations such as Flickr and Wikipedia, the Powerhouse has shown that it is possible to integrate documentation and objects into the global flows of information online, without removing it from the museum's site. The flexibility created by the connections between the objects and the wider web enable them to transcend their immediate location (both online and offline) and situates them in wider interactions and flows of interconnected cultural, political, economic and technological ideas, agendas and resources (Cameron 2008: p.230). By taking up a position within public spaces, the Powerhouse's collections invite the development of different meanings within wider cultural and social contexts, and allow them to be used by other actors within the wider networks. If we refer back to the original definition of the contact zone as a 'social space[s] where disparate cultures meet, clash, and grapple with each other' (Pratt 1991) we can see that the Powerhouse has managed, via its collections, to both invite the types of discussions that mark the contact zone into its webspace by allowing user-tagging and new interpretations of certain objects, but also, and possibly more significantly, it has inserted its collection into the wider contact zone of the web. Powerhouse objects are able to be included in the greater online collections because they are accessible, and fluid enough to move across platforms in the global flows of information and content that Cameron describes.

In contrast, the British Museum's presentation of the collections from *A History of the World*, COMPASS and the Talking Objects are more tightly hemmed-in. Even if we disregard the fact that some of the pages have been archived and the links no longer exist, and look solely at the pages via the WayBack machine, we can still see that the content does not flow easily between the different sites, despite the reuse of the objects in different contexts. Even the Museum of the World microsite exists under a unique URL which is not displayed on the Museum's website. Links to other museums and sources can be found on the History of the

World hub at the BBC site, but these links are uni-directional; they do not direct back to either the Hub or to the BM.

The result is information that is, ultimately, static. Since the Linked Data versions of the Museum's database are also housed on a separate site (<http://www.researchspace.org>) and the hyperlinks between the three projects are either non-existent or no longer live (see Table B), there is no way for users to see the information in other contexts or what possible use-cases for reuse might be. In their 2011 paper, Hogsden and Poulter argued that 'whilst having good intentions, and often succeeding in creating interesting connections and interactions, to date digital museum practice in many respects continues to work within a centralized arrangement.' (2011, p.90). This summary remains relevant today – the BM's shift to a more centralised mode of working, as described by Anthony Griffiths (Griffiths interview, 16.48) can be seen in their digital incarnation: a central silo of knowledge, the COL exists, and it is surrounded by other sets of knowledge, but they remain disconnected and impermeable.

6.6 Conclusion

There is generally an absence of specific methodologies for evaluating museums online (Kenderdine, 1996, Teather and Wilhelm, 1999), particularly when it comes to examining how they may or may not be fulfilling their mandate of increasing public accessibility to their collections. As Teather and Wilhelm point out, the majority of frameworks stick to a typology of traditional museum activity, with 'marketing to increase awareness of the museum and promote visitors', providing support for the 'educational mission' of the institution and acting as a 'virtual brochure' scoring highly among the reasons given by museum professionals for their presence online. These objectives raise an echo of Boast and Srinivasan's uneasiness about the professionalization of the role and purpose of the museum in the last decade, and seem therefore inappropriate as benchmarks for evaluation or comparison. In fact, activities which have an analogue counterpart in the museum's daily activity generally feel inappropriate, since the very point of rethinking museums as digital contact zones is that they offer the possibility to 'extend the breadth of information on offer to present all collections and, allow multiple interpretations and perspectives' (Kenderdine, 1996). By surveying the Powerhouse's own data as a measure of engagement, and comparing it with the digital activity at the British Museum, it does become possible to evaluate, to a fair degree, how much of the digital contact zone has been established at the BM. It is possible to develop a sense of how deeply people have chosen to engage with the multiple entry-points available into the

collection, and the mechanisms which exist to allow them to inhabit the digital contact zone. And, as the previous section has shown, despite their best intentions, the institutional model of the Museum, as reflected in its data model and online infrastructure model, as well as the complexity of managing digital assets over several web domains, with different commercial and non-commercial partners over time makes the establishment, and maintenance of a digital contact zone extremely difficult. The combination of a decentralised web, and a museum which has become increasingly centralised in its practice has rendered much of the rich material created across the different assets inaccessible.

Chapter 7 – The Digital Transformation of Networks: Locating the British Museum Online

7.1 Introduction

So far, thesis has looked at the digital outputs of the British Museum for evidence of how the digital transformation of collections, records and workflows has manifested the transmission of their institutional identity online. In this chapter, I will explore ways in which this manifestation and transmission take place in the network the Museum has established on the web, a space where the familiar markers of nationality are absent. This absence means that online viewers are unable to locate these objects within a wider national or regional contexts.

In order to conduct this study, I made use of methods and techniques developed by web researchers studying social activity online. These methods are designed to explore how individuals, organisations or actors mark out sections of cyberspace, demarcate them as being within or outside a certain boundary, and coalesce into online spaces that might be considered to mirror the geographical concept of a nation. These borders and nationalised spaces are as much imagined into being as those described by Benedict Anderson, but with the added intangibility of being virtual. By availing myself of the tools developed by Internet researchers⁸⁰, I intend to try and map some form of border within which to locate the BM's national web, as well revealing the other entities in the online network.

For the British Museum, being online means that anyone surfing the web is able enter the Museum with ease (British Museum, 2012: p.4) from anywhere in the world⁸¹. The idea of digital normativity in British museums has been discussed in previous chapters, but it is relevant, in this section, to consider Parry's research on the development of the way digital has been 'naturalised within museums' vision and articulation of themselves' (Parry, 2013: p.28). He highlights the Museum's increasing references to digital heritage, the web and their own website and their inclusion of digital activities in the descriptions of their core work, even though the activities referred to are diffuse and not always specific (Ibid). The details of the activity may be vague, but the institution described by Parry, has a clear digital

⁸⁰ The Digital Methods Initiative is a group dedicated to conducting research on natively digital tools, sometimes remediating those used by researchers in the material world. For an explanation of their work, and a list of the suite of tools they have developed, see <<https://wiki.digitalmethods.net/Dmi/webHome>> [Accessed: September 2016].

⁸¹ Of course, firewalls exist in some countries, which block access to certain content, and language remains one of the most obvious distinctions of content which is generated 'elsewhere' but the mechanisms to bypass these barriers, such as Virtual Private Networks which allow users to subvert geo-restrictions and online immediate translation services such as Google Translate, mean that even these digital versions of boundaries are beginning to dissolve.

consciousness, and sees itself as existing in at least two places (London and cyberspace) at one time.

That said, the symbolic markers of the nationality evident in London, such as national flags flying over the entrance, or signage in a particular language (Elgenius, 2015: p.150) are absent in the online version of the museum. According to Elgenius, these markers are important stabilisers of a national identity; without them, presumably, an institution may struggle to articulate the who it is, or which larger audience it sees itself as serving.

When exploring the Museum from outside London, without the connections to the familiar markers of Britishness such as the Union Jack, the typically 'Londonesque' streets of Bloomsbury (complete with fish and chip shops and pubs) or the proximity to the Houses of Parliament, Big Ben and the Thames, it becomes more difficult to root the institution into a sense of place. What cues can viewers of the online museum use to be reminded that the virtual space they are navigating through is British? Once within the institution, how is the Museum to convey the sense of history, the scale of the collection and the scholarly tradition it has spent 260 years cultivating when access to the collection is mediated by an online portal rather than by the familiar facade with its wide front stairs staircase, covered courtyard and round central reading room? Or when the items themselves are viewed in isolation, without the proximity to other objects on display in the galleries?

In the absence of obvious markers of national significance and in an effort to address these questions, this research required an investigation into the way the BM has availed itself of digital markers of national identity and deployed them online. I will begin by looking at which markers exist generally, across the web and then turn my attention to how the Museum has made use of these, both actively and as a result of the way the institution has situated itself on the web.

7.2 Demarcating Boundaries Online

While the traditional physical markers of nationality may be absent in online contexts, this does not mean that the web is a national-boundary-free space. The emergent practice of national web studies has helped develop a framework for marking the transition of our understanding of cyberspace from formlessness to a more structured web of identifiable domains (Rogers, Weltevrede et al, 2013, see also Baeza-Yates, Castillo & Efthemiadis, 2007). Several mechanisms exist which divide the web into spaces demarcated by nationality, and some, but not all, provide immediately visible indications of which national web space an institution may be located in.

In the early 2000s hyperlink network analysis was increasingly recognised as a means of describing and analysing the relationships between social actors on the web (Rogers, 2000, Park 2003, Herring, 2009). By now, link-studies are an established methodology for web research, with a well-developed body of theory behind it (De Mayer, 2012). One area where it has been proven to be a useful methodology is in the identification and mapping of national web domains (Baeza-Yates et al, 2007). In this context, link analysis is an effective method for discovering and analysing the ways in which a single country is depicted and represented on the web (Hale, Yasseri et al; 2014). By extracting URLs from a particular 'section' of the web, researchers are able to map virtual spaces as they correspond to national boundaries in the physical world.

The most obviously evident mechanism of marking web nationality is the national top level domain, often referred to as the country-code top-level domain (ccTLD) which is visible in the URL of a website. This is a system which maps, generally, to political geography and consists of two-letter codes added to a URL generated in a particular country or territory, usually in accordance to their centrally-standardised ISO 3166 code (Mueller, 1998: pg.90). These would be, for example, .fr for France, .uk for the United Kingdom, .za for South Africa and so forth. However, not all URLs originating in a particular territory will have the corresponding ccTLD; academic institutions may use .edu or .ac while commercial enterprises use .com and the British Museum itself uses .org - an extension which signifies an organisation, usually a non-profit. It is also likely that some domains which are demarcated as .uk may be hosted on servers which are not physically in the UK, despite the signal otherwise.

While the TLD is not the most reliable marker of national identity online, it is still a useful at-a-glance marker of the nationality of a website. However, the choice of TLD is not neutral. Erica Schlesinger Wass argues that there is a relationship between national priorities and the way domain names are used to achieve them: 'Country code domains, once seen merely as street signs for computer networks, are now indicators of national cultures, identities, and priorities.' (Schlesinger Wass, 2003: pg.xvii) Taking this into consideration then, the initial choice of the BM to use a generic .org TLD rather than the country-specific .uk one may be seen as an initial signal of the Museum's self-declared universality - a way of demonstrating the intentions of the digital version of the museum, which has over the years repeatedly declared itself as having a universal role, and whose collection is, in its own words: 'preserved and held for the benefit of all the world, present and future' (British Museum, 2012).

Another online mechanism which marks out national boundaries is geo-limiting, a method whereby browsers in one country may only see certain types of sanctioned content.

This mechanism has limited value, as I will show, since it can easily be subverted. As an international institution, it is highly unlikely that the British Museum would ever make use of this technology. However, it is worth noting since it may be a mechanism used to control access to British Museum content by those outside the UK. Generally, these location-specific technologies can be grouped together and described as geo-ip location, geo-blocking and firewall mechanisms. These may be deployed by governments or internet service providers in order to restrict access to information based on the user's geographic location, effectively defining and constraining them inside the borders of a country or territory's national web (Young, 2014 and Clayton, Murdoch & Watson, 2006). In general, this type of geo-blocking is used to restrict access to content deemed unsuitable by a government because it contains materials of a political, sexual, religious or cultural nature (Zittrain & Palfrey, 2007). Geo-blocking mechanisms can also be used to prevent content from outside the demarcated zones from entering into a particular web space, although this type of blocking tends to be for commercial, rather than socio-political reasons, such as restricting access to streamed commercial entertainment services, such as film and television streaming services, or music produced by certain commercial record companies (Young, p.4).

At present, a search through the Museum's site does not uncover any content that is restricted using geo-blocking by the Museum itself. This is not to say, though, that regulators in other countries would not, or have not, blocked access to the site at different points in time. While both ccTLDs and geo-ip location and blocking are ways of demarcating national boundaries online (although with different intentions and manifestations) I would argue that they are primarily regulatory mechanisms which govern the way the internet is organised and the ways in which content is distributed in the day-to-day activities of users. This makes them different markers of national boundaries to, for example, flags or architectural styles as manifestations of national cultural expression.

7.3 Establishing the Network

Having made the distinction between the different regulatory manifestations of national borders online, and established that neither of these is used by the BM to establish an overtly 'British' identity, the next step is to look more closely at the Museum's virtual entity, namely its website; and try to locate it within a sphere of activity on the web which may be read as a proxy for national boundaries. By contextualising the online presence of the Museum and examining which mechanisms or behaviours (if any) the Museum uses to promote its identity, I am able to come one step closer to answering the question of how the Museum has created and transmits a sense of national identity within the greater space of the web. One

method for doing this is through locating networks online, establishing which of these networks the Museum is part of and how communications flow within these networks. Halavais (2000: p.8) argues that this approach can lead to an '...understanding of the structure of imagined nations and some idea of where their borders lie'. Halavais analysed 4000 websites in order to determine a snapshot of the organisation and linkage arrangements of a portion of the web. He found that while the web is often described as international, borderless and free of the demarcations of contemporary nation-states, in reality, many of the social structures that can be seen in the material world are replicated online - and this includes the shapes of national borders.

His analysis showed that while the web is indeed a multi-national space: 'the number of hyperlinks that cross international borders are significantly less than those that link to sites within the home country' (Ibid: p.18). It's important to note that this research was carried out in the late 1990s, when the network-visualisation technologies which are available to researchers today were not yet widely used, but it was a prescient observation nonetheless. He goes on to argue that by studying the emergent patterns which can be discerned in the organisation of distributed content online, it is possible to uncover borders which mirror their material-world progenitors (Ibid). This hypothesis has informed the central question of this chapter - namely whether the British Museum can be said to operate within a British webspace, and if so, whether this space can be characterised as having a particular identity.

Contrary to the myth of the web as a chaotic, anarchic and ultimately egalitarian space where the casual browser may hop from link to link and create their own pathway along the information superhighway, the reality is that the web is a much more directed, hierarchical and managed space than it may appear (Rogers, 2000: p.12). The algorithms used to power search and ranking of web pages are not neutral mechanisms for crawling content and rendering search results (See Rogers, 2013: p.96 and Brin, Page et al, 1999); likewise, the relationships between online entities such as the British Museum and any other websites it may link to are cultivated and filtered by both the institutions in question and the search engines which act as the portals through which many online visitors access them. These algorithms and their workings are at best opaque, and more often than not completely invisible to the user, and run in the background of websites, subtly influencing how users find information, what information they are able to access, and which associations they are led to make between institutions. But these mechanisms are not only a way of pointing users in the directions that webmasters want them to go. They are also leave pathways and traces that

web researchers are able to follow in order to create maps and visualisations of what the topography of sections of the web might look like.

Finding a way of understanding the methodology for mapping the web topography around the British Museum is the main methodological focus of this section. Through this analysis, I will draw a map of where on the web the British Museum is located, and see which organisations, institutions and other information sources make up its network. Working from this map it is possible to determine the significance of these different actors within the network since the maps are rendered in a way that ranks entities by the number of in- and out-links between them and the British Museum. This will allow us to draw conclusions about the significance of the relationships between the Museum and other actors.

By dispelling the myth of the web as a neutral space, examining how relationships are constructed between institutions online, and making a reading from these relationships, this chapter also attempts to identify similar questions emerging in the field of contemporary web research and the work of archivists and archival theorists who have been shaping their field in the last decade. As digital museums, libraries and archives converge, the distinctions between the institutions themselves become increasingly blurred, and while curatorial, archival and library practices may have their own specificities, the overall principles which have guided how they operate (clear provenance, authenticity of the record, the need for interoperability) are equally applicable. Schwartz & Cook (2002: p.3-7) argued that historically, those who had access and control over archives were active in reinforcing the myth which characterised the memory institution as a passive, neutral space devised as a storehouse of resources which served the need of scholars, historians and society in general as they sought to establish empirical truths. As a result of the archival and museological turn of the last three decades professionals in these repositories have acknowledged the bias inherent in the creation and maintenance of the spaces. Archives are controlled and mediated through established series of interlinked activities - from the design of the record-keeping systems to the criteria used to appraise and select which impossibly minute fragment of all existing records are actually included, and how they are described and preserved. Through their skill and expertise in these activities, archivists, librarians and curators are invested with great power over identity in a society, and they have an active role in shaping how those identities are negotiated, disputed and confirmed. Through their control over the evidence of the past, they mediate representations of reality in the present and the future. Kirchhoff, Schweibenz & Sieglerschmidt (2008) present the notion of the memory institution online as a place of convergence, where the boundaries between institutions have blurred, and where, to the end user, the source of the information and the method of locating it is of significantly less

importance than the information itself: 'Where they find their information, whether it is in a book or a leaflet in the library, from a description of an artefact in the museum, or from an organisation's protocol in the archive, as long as they do find it' (p.252).

If the mechanism of search, be it a finding aid or an algorithm, is what stands as gatekeeper of access to knowledge, it is possible, then, to argue that the power to influence rests as much with search algorithms as it has, historically, been given to librarians or archivists; a scenario which then has implications for the trustworthiness of the search mechanism. If archivists, librarians and curators are able to shape social memory through their mediation and bias (McKemmish, Faulkhead, & Russell, 2011) then the same might be true of the code behind a search string, and therefore the objectivity of the digital repository is also brought into question. As Ross & McHugh put it 'Digital repositories are only worthy of trust if they can demonstrate that they have the properties of trustworthiness' (Ross & McHugh 2006: p.1). These properties need to be applicable not only to the provenance and authenticity of a digital resource or a copy of a specific record or document; they also pertain to the way the document was located, including the parameters (such as source databases and metadata) framing the way the search was conducted. Various mechanisms for establishing and certifying this authenticity have been posited by different theorists. Bearman and Trant (1998) proposed the use of technical mechanisms, such as public hashing algorithms, watermarks and encryption, while Ross and McHugh make the case for community-led certification as a mechanism for marking authenticity. McKemmish et al (2011) argue that, particularly in post-colonial societies, where the archival record and the museum collections mask acts of literal and figurative violence and appropriation, digital versions of these sites of need to be refigured and built in ways which allow them to be both inclusive and collaborative from the outset, and that failing this, these sites will be seen as illegitimate. What this research has revealed is that, further to all of these factors, it is, in fact, the network itself which provides the legitimacy needed for the digitised collection to be seen as trustworthy. This chapter, which sets up the analysis of the digital networks, thereby adding empirical emphasis to this argument by showing how Britishness as a national identity is reinforced in the digital networks within which the British Museum is situated.

In many ways, this chapter seeks to do for the digital version of the British Museum what the chapter which presented the institutional introduction did for the Museum in its brick and mortar form: by establishing and examining the Museum's relationships to the actants (institutional or individual) around it, I will show how it fits into the socio-political establishment and its position in relation to the loci of cultural power and influence. Rather

than locating these in London, the United Kingdom and the Empire, though, this examination looks to see how the Museum interacts as an actor within the web. The intellectual basis for this approach is rooted in Actor-Network Theory, and represents an attempt to better understand any impact that the Museum's behaviour might have within an established online network. Niels Brügger and Niels Ole Finnemann argue that the web itself has been overlooked as a subject of study itself, and that humanities researchers have tended to see it as a platform for the hosting of content and the execution of various research activities. They go on to argue that this has resulted in a dearth of born-digital web archives and the concomitant humanities research that might take place using these corpora (Brügger & Finnemann, 2013). By using ANT and hyperlink network analysis in the examination of just such a digital corpus (ie: the BM's digitised materials online) this project uses digital methods to examine the British Museum in a new way, because the digital British Museum is, in effect, a new entity, with patterns of behaviour on the web which have yet to be described and understood. These digital techniques encourage an emergent picture of the British Museum's online network and relationships, and investigate whether it exists within a webspace which could potentially be described as 'British'. Throughout the process, I shall look for echoes of the Museum's historical engagement with the development of English identity, both in Britain, and within the networks of Empire. I intend to build a study of how the museum manifests Britishness online by reading the Museum's website and the online catalogue of objects as a publication which may be parsed for meaning as effectively as the early handbooks. At the same time, I will show that the web is not just the field in which the research has taken place, but is also a component subject in the study, as equally significant as the institution itself. In this thesis the treatment of original objects matters as much as the digital manifestations do, in the same way that the British Museum's presence online is as significant for the work as its presence in London since 1753.

7.4 The IssueCrawler – tool and method

This mapping exercise uses the IssueCrawler tool developed by the Digital Methods Initiative in Amsterdam⁸². The benefit of this tool is that it was developed on the assumption that the hyperlinks, code and search algorithms which make up the web are 'natively digital' creations⁸³ - that is they are mechanisms which are born digital and may not have identical analogue progenitors (Rogers, 2013; Ben-David, 2014). This born-digital approach allows us

⁸² For more about the DMI, see <<https://wiki.digitalmethods.net/Dmi/DmiAbout>> [Accessed: September, 2016].

⁸³ See the DMI's Frequently Asked Questions for their definition of what makes an online object 'natively digital': <<https://wiki.digitalmethods.net/Dmi/FAQ>> [Accessed: April 2016].

to remain cognisant of the fact that methodological approaches to research which are appropriate in the material world may not necessarily be relevant when working with digital objects in a digital context - as Niels Brügger has argued in the case of digital archiving; the web, '...unlike other well-known media, the internet does not simply exist in a form suited to being archived, but rather is first formed as an object of study in the archiving, and it is formed differently depending on who does the archiving, when, and for what purpose' (2005: p.xi). This sentiment is echoed by Richard Rogers when he calls for new digital methods to be used for the study of digital culture and society (2013). The analyses of these natively digital objects are then used to draw conclusions about the socio-cultural and political processes taking place online and offline, such as projects which map out minority webspaces (Ben-David, 2014), delineate the boundaries of the webspace of the UK (Hale, Yasseri et al, 2014) and to map portions of the web in Europe and South Korea before, during and after national elections (Brügger, 2012 and Larsson 2015). It is also a methodology which, as is the case in this study, can be used for explorations of archival research and web archives being done online, as it allows researchers to order, process and extrapolate significance from the vast volume of archived material on the web (See Weber, 2014; Samar, Huurdeman, Ben-David et al, 2013; Rogers & Morris, 2000). However, to my knowledge, no such mapping has yet been published which develops a network map for a cultural heritage institution.

At this point, it is also important to note that while I plan to use the IssueCrawler to uncover and then explore the BM's online network, it is important not to assume that the resulting network map will provide all the answers. In fact, there is a risk, as with any data-driven study, that the emergent network will provide very few answers. Brügger, again, sounds a note of caution on the topic of software-driven hyperlink analysis which excludes the gathering and evaluation of contextual information and non-automated analysis of this information: 'The use of analytical software...may only be part of the analysis of a network, and it is open for debate to what extent hyperlink analysis is, in fact, an analysis in its own right, or if it is rather the first step... In short, equating website with node or actor and hyperlink with relation or tie is not necessarily that simple' (2012: p.2) It is particularly important to remember this when using the IssueCrawler, since it was a tool originally developed to uncover networks of organisations and institutions which coalesce around issues (political, social or other) on the web, and then to track how these networks develop and change over time. This does not, however, preclude the use of the Crawler for investigating the shape of relations between entities online. Park and Thelwall note that '(...) we can potentially discern fingerprints of social relations through the analysis of configurations of hyperlink interconnections among web sites that represent a social system's

components such as people, private companies, public organizations, cities, or nation-states' (2003: p.6).

This methodology is usually used to discern patterns of communication and infer the standing of an issue by way of interpreting the search algorithm's authority (Rogers, 2013), rather than relationships between the digital versions of organisations and institutions on the web. In this particular case, however, because the objective in using the methodology is to discern and then visualise the Museum's network, I am able to sidestep some of the methodological challenges associated with hyperlink analysis, as outlined by Brügger. He argues that network analyses that make use of analytical software evidence only the physical or performative part of the hyperlink which is the actual connection between link source and link target. Hence, network analysis done using software tools (such as the IssueCrawler) tells us very little about the context or characteristics of the link sources and targets, other than the fact that they are sources and targets (2012: p.2-3). For our purposes, this is sufficient, since the objective is to discover which institutions and organisations make up the network, without delving into the details of the relationships or the nature of the communications and interactions between the nodes. But Brügger's overall point, that any usage of network analysis requires an allowance for other forms of analysis which may provide the connective tissue of context and meaning between the nodes is important to consider.

Both Bharat et al (2001) and Thelwall (2006) point out that using link frequency as a proxy for a relationship between nodes is problematic. Bharat et al found in their study of snapshots of the web over several months there may be several explanations for why pairs of host sites may appear to be strongly connected by volume of links, despite a lack of any other evident relations. Large hosts, such as www.geocities.com, may have many links as a result of their size; other possible reasons include the reuse of template text with embedded links across multiple pages; search engine optimisation and affiliate programmes which encourage third party sites to link back to a common source. These possible factors may influence what initially appear to be strong connections between sites. On closer scrutiny, however, these links are revealed as being significantly weaker than they initially appear (2001, pg.55-56). This reality highlights the importance of cleaning the initial dataset in order to minimise the risk of including outlier links which might skew the result and of maintaining a critical examination of the resulting network map in order to be aware of any clusters of nodes and edges which may result from such existing links.

7.5 Actor-network theory as a framework for network analysis

Actor Network Theory (ANT) is a socio-philosophical approach developed by scholars Bruno Latour, Michel Callon and John Law (Latour, Jenson et al, 2012) in which explanations for (and analyses of) complex social arrangements and activities are developed through an examination of the relationships between elements within a network. These elements may be either human actors or non-human actants, both of which operate in those contexts. Within the framework of ANT, the study of technologies, organisations or social orders becomes the study of the connections between a heterogeneous set of actors and actants who interact with each other in the context of a network. Within any network heterogeneity is prioritised over humanity, and the focus is on the circulation of effects, rather than the search for socio-psychological causes (Munro, 2009). These connections or relationships are referred to as 'associations' (Latour, 2005; Arnaboldi & Spiller, 2011). ANT affords as much agency within the network to non-human actants and social and technical elements as any human subjects, which makes it a useful analytical tool when considering a technological field in which heterogeneous networks co-exist, and in the case of this study, how institutions like the BM might be connected to and have influence upon other actors within the networked field of the Internet (Latour, 1996 and 2005; Law, 1992).

Contextualised within the principles of ANT, in which non-human actors are seen as equally influential as human ones, it is possible to imagine that the World Wide web, seen as a singular entity, has as much influence on a network as any other actors, despite the fact that the web itself is a series of networks linked together by different nodes, or actors. It is possible then, to argue that in the context of Internet research, any online associations being investigated are in fact doubly networked - both technically as a series of nodes and links which constitute the Internet, and as a player within an ANT-defined network. The linguistic overlap here is more than incidental - as Cressman points out 'ANT looks to the network builders as the primary actors to follow... to 'open the black box' of science and technology by tracing the complex relationships that exist between governments, technologies, knowledge, texts, money and people'(2009: p.3)

As a tool for understanding the mechanics of power and complex network interactions in a socio-technical world, ANT is not only useful because it ascribes equal degrees of influence to human and non-human materials; the theory also sees communications between people and non-human objects as a process mediated by yet more networks of people and objects. Communications, according to the theory, flow through these networks, shaping both society and the discourses taking place, hence the implication that it is an individual or

organisation's position within a network which is the determiner of power and influence within the network.

Another reason for using ANT as the methodological basis for this study of an institution undergoing digital transformation is the centrality that the theory affords to objects or artefacts in networks. As Law puts it, within the framing of ANT '...artefacts may, indeed, have politics. But the character of those politics, how determinate they are, and whether it is possible to tease people and machines apart in the first instance - these are all contingent questions' (1992: p.383) The argument that artefacts have agency is controversial, but through their rejection of the binary classification of issues or practices as nature or culture, science or politics and the characterisation of networks as heterogeneous, ANT scholars have positioned objects as central to their theory. This provides an elegant solution to the problem of social and technical determinism by helping show how society and technology are mutually constituted out of the same stuff - namely a series of interrelated and interconnected networks. Taking an actor-network perspective allows us to understand social relations online and offline as being more than unmediated relationships between naked human beings, and rather helps us to see understand them as being made possible and stable by artefacts and technologies (MacKenzie, 1996: p.14).

To museologists, archival theorists and other scholars of the way social memory is shaped, the idea that technologies (including archives and museum spaces) are not neutral is not unfamiliar; post-Derrida the constructed nature of the collective memory-space is taken as a given. Thomas Richards discusses the archive as an imagined utopia, pressed into the service of the British Empire, where '...the collectively imagined junction of all that was known or knowable,' was kept in order to serve 'the fantasy of knowledge collected and united in the service of state and Empire.' (1993: p.73) Schwartz and Cook make the argument that control of an archive means control of society, but they also point out that it is important to consider the linguistic intent in a discussion archives: 'While cultural theorists and information technologists both embrace the notion of an archive as a store of information, the former conceives of the archive as a source of knowledge and power essential for social and personal identity, the latter views the archive as a neutral, even mechanical, accumulation of information for safe keeping' (2002: p.5) ANT provides an elegant way of bridging the gap between cultural theory and information technology while still maintaining a particular perspective - we are able to look at both the artefacts within a museum and the museum itself as active agents within a series of networks. In national cultural heritage museums, where objects may double as repositories of ethnic sentiment, and the institutions themselves may

be analogous with national autobiographies (Porciani, 2015: p.121) ANT offers an analytical framework which brings a degree of scholarly gravity to examinations of objects and institutions and discussions about museum objects and their role in developing and cementing national identity⁸⁴.

One of the contingencies Law refers to in the earlier quote is the question of ‘punctualization’ a feature of ANT which is used to explain how complex networks within a society, organisation or institution may be concentrated into what look like a single point or entity within a network (Callon, 1991: p.53). This is a process whereby the workings of the network become invisible (i.e.: the network does what it is intended to or functions as it is supposed to) and appears to work as a singular entity, which in turn is then linked to other entities, creating a type of recursive network-within-a-network. By zooming in to what appear to be single points, we are able to reveal, expose and enumerate the different human and non-human actors which comprise the network-within-a-network, how they influence each other, how the power hierarchies between them may function, and how they connect to and fit within the greater framework of other nodes. In the context of this study, it allows us to look at both the way the Museum interacts with other entities on the web, and the processes which took place internally and externally at the British Museum and understand how they were impacted by and had impact upon the society within which the Museum was located.

The intention is to apply this model of ANT-influenced thinking to the British Museum in order to establish two different readings of the institution, one from close-up and one from a distance. The distant reading will give us a wide-view and allow us to establish the Museum’s online field online, and once that has been established, to see which actors and actants comprise the field. The close-up view allows us to see the objects within the Museum as part of a networked field and examine how their politics impacts that field.

These views will be established by using data collected from a web crawl with the Museum’s website as a starting point. By doing this, I will be able to develop a picture of what the Museum’s network might look like. Once this has been established, I will have a better idea of the scope of the Museum’s influence and impact, and the range of other actors who have had impact on it.

Working from the premise outlined in the introduction that museums have an integral role in developing, bolstering and reflecting a constructed national identity, it is logical to consider the Museum’s networks during the British Empire, when British identity was asserted across the world and cultural and heritage networks were being built between the

⁸⁴ Consider, for example, the recurring controversy over the rightful ownership of the Parthenon Marbles.

periphery and the metropolis. Chapter 3 outlined the history of the Museum against the backdrop of the British Empire and the development and portrayal of British national identity. In the contemporary context, it is possible to use digital methods to create maps of which entities are currently associated to the Museum's online iteration, and use ANT to help develop a better sense of what these associations might mean in the manifestation and practice of the Museum's significance online. Exposing the Museum's networks on the web also highlights the possibility for a mirroring of the transfer and transmission of cultural identities discussed in Chapter 3. By locating the Museum's network, I will be able to develop a clearer picture of the Museum's position in the network, and this will allow us to open the investigation into the overall question of what happens to this identity when the Museum underwent digital transformation.

By applying this theoretical approach within the overall question of this thesis, the objective is to demarcate the scope of the British Museum's online presence, and from that point identify which other actors are in their network. Once a network has been established, the Museum's sphere of influence may be better understood, and I will be able to make observations about how the Museum cultivates an identity online, and to whom it is speaking.

7.6 The web As Archive and Source

At this point, it is important to note that scholars of information systems, librarians and archivists have been problematizing the idea of the web as a source for research for some time. (Kahle, 2002; Masanes, 2006; Brügger 2012a; Ben-Anat & Huurdeman, 2014). They have questioned how researchers might be able to conduct scholarly research using web pages and websites as sources, since the transient and read/write nature of the web means that new webpages containing new information are constantly uploaded, and often little or no record of what was there before remains. In addition, the current dominant web archiving practice of taking snapshots of web pages at various intervals in order to build up an archive over time makes using the resulting archive problematic. In this section, I will provide a brief overview of how researchers and practitioners have problematized web archives as a source, and briefly examine the technical solutions proposed to address this. This is important since the dataset being used for this research is, in essence a web archive which was created when the initial crawls of the BMs network were performed. It is possible that the Museum's network is no longer comprised of the same set of entities as those represented in this iteration of the network, or that the links between some of the entities may no longer exist. This makes it as susceptible to criticism as a source as any of the archives mentioned by the theorists below. However, this does not detract from the value of mapping the network at the

time at which the research was undertaken. Firstly, the IssueCrawler's methodology of only including sites which have two or more links between entities in the network ensures a degree of robustness to the findings - if one link is broken, removed or otherwise non-existent, there are still enough links to keep the entity as part of the network. Secondly, it is true that for a truly up-to-date study a series of crawls would need to be done using a continuous series of datasets taken from different temporal instances of the BM's site. Unless this is done, it is not possible to say with total certainty that the network represented here is definitively the same as the network it is currently a part of, or was part of in the past. A longitudinal study of the Museum's online network over time may reveal changes in the network and the actors involved, and would be a valuable and interesting undertaking. However, as an introduction to mapping the network of a large national cultural heritage institution's network, in order to prompt some questions about the ways national cultural heritage is deployed online as part of a larger network, this dataset remains a useful first foray, despite the increasing questions being asked by professionals and theorists about the use of web archives as sources.

Helen Hockx-Yu, the head of web Archiving at the British Library, has outlined these problems as originating in the regulation of the content and the design of the archives themselves (Hockx-Yu, 2011: p.114). Copyright considerations and the legal requirement to restrict access to certain sections of a web archive mean that researchers may not access certain archival sources, even when the information (in the form of the original web pages) might still be available online. Restricted access as a result of legal considerations is less of an issue for this research than the second factor outlined by Hockx-Yu; namely the fact that the 'predominant use case envisaged for web archives is... document-centric.' (2011: p.115). Brügger's articulation of the problem is more metaphysical - he argues that the problem with web archives is that they are situated on the web (Brügger, 2012: p.318) or as he puts it: 'the old web cannot always be found on the web.' The technical processes required to crawl and build archives of webpages by retrieving content from web servers means that archives are always going to be subjective, reconstructions of versions of pages which no longer exist, and the archives, he goes on to argue, will always be deficient, because the static nature of the archived pages means that images, graphics or the possibility for interaction is missing from the archived version, or because the process of archiving might capture a website mid-update (p.320). Brügger does not propose that these and the other challenges he outlines are reasons not to use the web as a source for historical research, but he does call for a collaborative effort between historians, archivists and web technologists to build mechanisms for creating sites, which are accurate and authentic.

Ben-David & Huurdeman trace the history of web research as a methodology, and argue that while the 'single URL' approach, (which is essentially the process described by Brügger and Hockx-Yu) has been the dominant methodology for research using archived web pages in the past, the increasing development of searchable web archives marks a turning point for web researchers and scholarly research which makes use of the archived web. These archives offer the researchers the facility of using the data of the entire web archive as the dataset, rendering composite results to the specifics of the query, rather than using web pages as sources (2014: p.98-99).

In the context of this research, these emerging theories are important to note and consider, because they highlight the risk of assuming that archival subjects of study on the web are static, as they would be in the material world. The reality, however, is that the web is constantly evolving and this means accepting the risk that source materials may change. To address this risk, I was careful to do two crawls of the British Museum's network, in order to triangulate the results. The first crawl was from an external position to the Museum (i.e.: looking at *who* linked to *it*) and the second one was from an internal perspective (looking at *who* *it* linked to). The first crawl helped to reveal the British Museum's online network, and establish which other actors might be part of the BM's network at a particular moment on the web from the perspective of the Museum's site. The second crawl revealed the extent of the Museum's network by using the top 100 Google links as the source.

7.7 Using the Crawler

The Digital Methods Initiative (DMI) in Amsterdam is an internet studies research group⁸⁵ with a focus on developing tools and methods for extracting information from web platforms and social media sites. These tools allow researchers to generate research data in a natively digital environment, using born-digital media such as hyperlinks, tags and URLs⁸⁶. This hybrid theoretical approach, as well as the DMI's operating assumptions about born-digital artefacts means that their suite of tools is ideally suited to this research, since it renders datasets which are flexible enough to be used in inter-disciplinary contexts like this research.

The IssueCrawler is a tool which ingests lists of hyperlinks which exist between a set of websites in order to produce an 'issue-network'. Marres and Rogers define these networks as: 'a heterogeneous set of entities (actors, documents, slogans, imagery) that have configured into a hyperlink-network around a common problematic, summed up in a key-word' (2005:

⁸⁵ See <https://wiki.digitalmethods.net/Dmi/DmiAbout> [Accessed: September 2016].

⁸⁶ See <https://wiki.digitalmethods.net/Dmi/MoreIntro> [Accessed: September 2016].

p.6). To this end, the Crawler was originally envisioned as a tool for mapping the ways in which communications around certain topics or issues between entities take place, rather than as a mechanism for revealing what which entities are connected to each other. However, this study is less concerned with finding a common problematic between any of the actors who may be in the network, and is more concerned with making an initial survey of the network and discovering which organisations and institutions might be part of it. IssueCrawler is a useful tool because it offers a robust methodology for extracting and visualising networks online. Briefly explained, IssueCrawler uses a list of hyperlinks retrieved from a website or webpage as a starting point for a crawl. The list is manually uploaded into the IssueCrawler interface, and the crawl is set to run. By crawling the outlinks from all the pages in the list and recording which links are shared by two or more of the websites on the list, it is able to create a network map of linked websites. Repeating the process several times, the results from each 'co-link analysis' provide the starting points for the next iteration. As Marres and Rogers explain: 'If these pages are sufficiently interlinked, then IssueCrawler can be expected to find an issue-network. In other cases, the crawler may find social networks or... no network at all.' (2005: p.5) The scope and spread of the network is shaped by the set of pages which connect to each other by way of the hyperlinks. What is rendered is a map of the websites linked to the starting website, and distinguished from each other by their ccTLD, which are represented as differently coloured nodes on the resulting map.

In the overlapping intersection of the fields of internet studies and the social sciences, IssueCrawler has become a reliable tool which may be used for mapping the networks of individuals or organisations which coalesce around social or political issues which play out on the web, such as the network of organisations involved in debates such as climate change, genetically modified food, or the politics of access to HIV medication. These 'issue-networks' (Ibid: p.3) play out within certain spaces on the web, and may be used as proxies to demarcate the boundaries of the online public which can be said to be engaging with any particular debate. However, it is also possible to use the tool to render mappings of networks which have other shared factors, such as real-world physical or geographical locations, funding, political alignment or shared participation in particular events, but may not actually have issues in common (p.7). It is this formulation which provides the starting point for the examination of the British Museum's network: by visualising which entities the Museum links to and which ones link to it, and establishing the members of the Museum's network of organisations it is possible to look for evidence of Halavais' hypothesis that material-world relationships between entities are often mirrored in the digital space, thus marking out a section of webspace in which British identity is projected and transmitted. In order to do this,

the examination will need to consider the nature of the links themselves. Are they aspirational, with smaller organisations hoping to develop their credibility online via association with the Museum (Park, 2003 and Rogers 1999)? Or are they cordial, connecting partners of equal standing; authoritative, marking organisations or institutions as sources of legitimate information online (see Lusher & Ackland, 2011; Middlemist, Butz & Carter, 2013) or are they proxies for endorsements, connecting prestigious institutions together in a network with a certain stature? The first step to answering these questions is to extract the list of URLs which link to and from the British Museum's website, and which will form the basis of the crawl.

In order to do this, it was necessary to extract as many hyperlinks as possible from the entirety of the British Museum's site. To do this, I used a tool called Harvester, also one of the suite of analytical tools developed for web scholars by the DMI. Harvester extracts all the URLs from a webpage, and returns a list of outlinks, which can then be added into the list, which will be used by the IssueCrawler. The British Museum website does not have a link- or blog-roll page, so that it was necessary to go through the site page by page, using the sitemap⁸⁷ as a guide, harvesting all the URLs possible in order to come up with a comprehensive list. This list then needed to be cleaned, in order to strip out a great many duplicate URLs from final list. The reasons for this were pragmatic as well as technical - embedded in the foot of every page of the Museum's website, there are links to internal and external content, such as Accessibility information, the Museum's site map, their Terms of Use, policy for the use of Cookies, a list of FAQs, a link to the official Chinese and Arabic versions of the site, a link to the Department of Culture, Media and Sport's Portable Antiquities Scheme, the mobile version of the site and links to several social media accounts where the Museum has a presence, including Facebook, Tumblr, Twitter and Instagram. These links were removed from the final list, in order to give a true representation of the outlinks from the Museum. Had they remained in, they would have given a distorted number of outlinks from the site. Once these had been stripped out, I was left with a list of 15931 unique URLs that formed the basis of the crawl.

The next step was to set the parameters for the crawl itself. The tool has four settings: the status of starting points, whether analysis is done by page or by site, the number of iterations and the depth of the crawl. By default, these are set by the tool as follows: starting points are privileged, which means that they remain in the results which are rendered in the first iteration of the crawl, so that the basis for the network is the starting point plus any other

⁸⁷ <https://web.archive.org/save/http://www.britishmuseum.org/about_this_site/site_map.aspx >.

entity with at least two links from the starting points. Setting the analysis to be done by page rather than by site provides more specific results, since running analysis by site gives results for homepages only, even if several pages in a site contain in- and out-links to the starting point. The number of iterations for the search can be set to one, two or three. The DMI recommends using one iteration to uncover social networks, two to uncover an issue network and three to map an establishment network. The depth of the crawl is calculated as follows: 'The pages fetched from the starting point URLs are considered to be depth 0. The pages fetched from URL links from those pages are considered to be depth 1. In general, the pages found from URL links on a page of depth N are considered to be depth N+1. If you set a depth of 2, then no pages of depth 2 will be fetched. Only pages of depth 0 and 1 will be fetched (i.e. two levels of depth)⁸⁸. By setting the depth for this particular crawl to 2, I instructed the crawler to include pages that have co-links to and from www.britishmuseum.org, but not pages that are at one more remove:

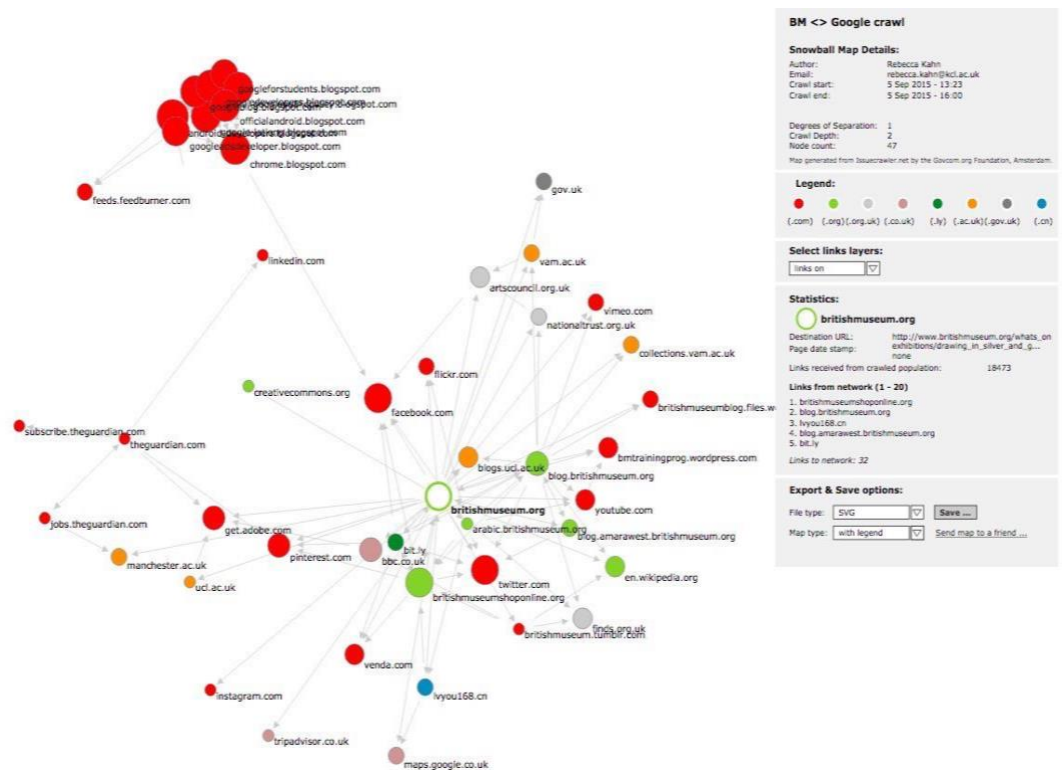


Image 7.1: Visualisation of the IssueCrawler's initial map of the Museum's external network:

⁸⁸ <https://web.archive.org/save/http://www.govcom.org/Issuercrawler_instructions.htm>.

7.8 Results and Analysis

In this rendering, the nodes represent websites, which are differentiated by giving them different colours, depending on their domain name extensions - red for those ending with .com, pale green for .org, grey for .org.uk, pink for .co.uk, dark green for any URLs which have been shortened using the .ly shortener, orange for academic sites with the .ac.uk extension, dark grey for governmental sites with the .gov.uk extension and blue for .cn sites, which is the ccTLD for People's Republic of China. The arrows in-between the nodes represent the direction of the hyperlinks between the sites (inlinks or outlinks) and thicker arrows have more frequent links. The size of the node is determined by the number of inlinks the webpage has from the network, so the more inlinks, the larger the node. In this image, the British Museum's node is in the middle of the larger cluster of nodes, a white dot with a green circumference.

What is immediately noticeable in this rendering is that there are two distinct areas to the map - the central zone, with the British Museum in the middle, and another area of nodes in the top left-hand corner of the map, which consists primarily of websites with the .com ccTLD. These sites have no direct link to the BM but link to it at one level of remove, via Facebook, and have a large number of links between themselves, which explains their close proximity in the cluster map. This cluster of nodes contains links to developer blogs, blog feeds and other generic sites, and all link back to the BM through Facebook. This mapping provides a useful initial overview of the network of actors in the Museum's external network. The range of results, and the diversity of ccTLDs represented show the breadth of the Museum's network online. However, the fact that so many entities with very weak links to the Museum were included in the Crawl indicate that the dataset is actually too broad to give meaningful results. What was required, if a solid picture of the Museum's webspace and network are to be established is a cleaner dataset.

7.9 Looking Closer: Revealing the Network

The objective was to use the IssueCrawler to crawl and perform a co-link analysis of all the websites linked to the British Museum, as the central starting point, and interlinked to other sites at a two-page deep distance. The reason for using two pages as the depth setting was because this would render a more in-depth network. The resulting network map would give us an idea of which sites are a first-step link to and from the BM, and what sites link to

and from the first level association, in order to establish what the Museum's online network looks like. This is the network represented in Fig 6.1

The algorithm which powers the IssueCrawler is designed to run a co-link analysis by establishing all the external links between the British Museum and any other sites included in the crawl. It sorts the links alphabetically, and then scans through the list and adds any sites which exist in the external links of two or more, thereby including them in the network. First a list is built of all external links (links not pointing to the host from which the links are extracted) from each site. Then each link from each site is compared to all links of the other sites. If the same link is found it is put in a set of co-linkees with which the next crawl starts⁸⁹.

In order to establish the initial set of links which would form the second iteration of the crawl, I gathered a list of websites which are linked to *from* the BM website and cross-checked them against the set of links used in the first crawl, carefully removing any duplicates. Since IssueCrawler crawls this list of sites, and establishes the number of inlinks and outlinks between the BM and these sites, as well as the inlinks and outlinks which these sites may have between each other, I also took care to remove any websites which might skew the results of the crawl such as links to hosting sites. This included links to sites which were obviously advertising, such as hotels in the area, links to platform or operating system developer pages, or any other type of search engine optimisation content were removed. The end result was a list of 159 starting points, which were then fed into the IssueCrawler in order to render the following network map:

⁸⁹ Digital Methods Initiative, IssueCrawler FAQ:
<https://wiki.issuecrawler.net/Issuecrawler/FAQ#What_is_the_39depth_39_setting_63> [Accessed October 2015].



Image 7.2 - Initial rendering of the British Museum's internal network, using the IssueCrawler's visualisation.

In this map, the clusters of nodes are connected by arrows, which indicate the direction of the links between the two nodes in the network. Nodes with different top-level domains are represented in different colours, and the nodes are different sizes, depending on the number of links which exist between the nodes. The size and significance of the nodes will be examined more closely later on, for now however, what is most significant is the variety of other types of organisations within the network. This map shows a several clusters of types of institutions, which can be identified by their top level domains, namely .org, .com, .ac.uk, .org.uk, .co.uk, .uk and .gov.uk - as previously discussed, top level URL (tlURL) are not a fool proof way of establishing the national provenance of all websites, but, as Anat Ben-David argues, natively digital objects such as IP addresses and URLs can be seen as digital border markers in the process of mapping national webspaces, and therefore these markers offer us a useful guide for establishing which nationality a website is situated within, as well as the type of organisation it is. It is important to note, though, that there is not always consistency in the use of the tlURL across organisations or institutions. The Victoria and Albert Museum, for

example, uses the .ac.uk domain, while other museums in the network, such as the Ashmolean and the BM itself use the .org domain.

What this map shows is that the British Museum shares its webspace with a range of different organisations. However, the density of the map, and the number of arrows within in make is difficult to see exactly which institutions and organisations are connected to each other. IssueCrawler allows users to create visualisations of isolated connections between particular nodes in the network, also known as components, (Easley & Kleinberg, 2012 pg.30) and to see only the inlinks and the outlinks which connect these components. When this feature is activated it is possible to see a clearer, more detailed picture of the BM's network:

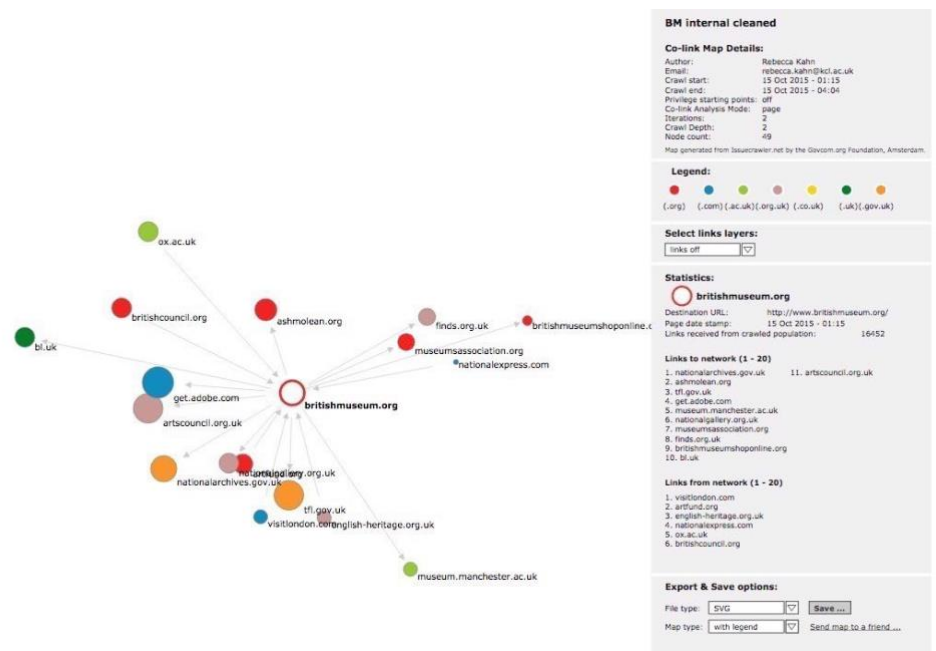


Image 7.3 Isolated segment of the network, showing only those sites which have Level 1 links to the Museum

This image shows that, within its immediate network, the British Museum has outlinks to eleven other websites, and of those eleven, five are other museums, archives or libraries: the Ashmolean, the Manchester Museum, the National Archives, the National Gallery and the British Library. The other six sites are Transport for London (the capital's hub for transport information and journey planning), Get Adobe, a site where users can download and install software (and where, presumably, much of the BM's content links to, in order to allow users to access this content with the appropriate software), the Museums Association - a professional body representing museums, galleries and heritage organisations in the United Kingdom, the

Portable Antiquities Scheme, which is the government's project to encourage members of the public to report any archaeological finds to the appropriate authorities, the BM's own shop, which has a different top-level URL (tlURL), and finally, the Arts Council England, a division of the Department of Culture, Media and Sport which distributes funding to the arts and museums in England.

Links in to the museum come from six different sites: Visit London is the official tourism board for the city, the Art Fund is one of the larger fundraising bodies for cultural heritage institutions in the United Kingdom, English Heritage is a charity which looks after the buildings, monuments and sites which comprise the National Heritage Collection, National Express is a British coach service, Ox.ac.uk links to the University of Oxford, and the British Council is the UK's international organisation for cultural and educational exchange. It is important to remember that inclusion in the map is not analogous to having a single link between the BM's site and the corresponding node. The IssueCrawler's analytical approach is based on co-link analysis, therefore a site must receive at least two inlinks from the other sites in the network to be included. While this double-link requirement renders a much more robust visualisation of the network that the BM operates within, it also means that the network is significantly wider than the seventeen nodes included in the map presented above. The legend on the left shows that the BM's site received 16452 links from the population of websites crawled, and each of those links is a second-level connection between the museum and another site. In order to fully understand the scale of the network, the IssueCrawler's *Pages in the Network* feature can be used to render a breakdown of all the starting point pages in the network, the number of deeplinks they received, and where those links came from. These can be seen in Table 1, in the Appendix.

This breakdown helps to give some sense of the scale of the complexity within the larger nodes of the network. It also highlights the tension which results from large-scale network analysis; namely the need to balance the desire to reveal a network which has been thoroughly probed in order to render enough detail to provide a useful overview, and a dataset which is small and flexible enough to be meaningfully analysed.

7.10 Size and Significance

The method described earlier, of filtering network entities by tlURL in order to establish their provenance and geographic location is not particularly appropriate in this context because of the variation in the extensions used by different institutions. For example, the Ashmolean Museum in Oxford, a museum which was founded in 1683 (making it 70 years older than the BM) and which is attached to the University of Oxford has the .org extension -

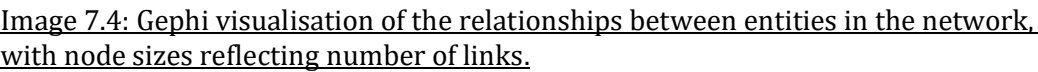
requiring some familiarity with the landscape of museums in Britain in order to classify it as one of the institutions which is in the group. Meanwhile, the node allaboutcookies.org, which is linked to the BM, the Tate, the National Gallery, the Heritage Lottery Fund, the National Portrait Gallery and the Imperial War Museum is a private site explaining how cookies are used in web browsers. A search using the ICANN WHOIS tool reveals that the site is registered to a private individual in New Zealand⁹⁰. The reasons for the links to this site are understandable (institutions might want to link to sites which clearly and simply explain web features such as cookies) but on examination it is obvious that this site cannot be considered to be British, even though it shares a tURL with other institutions that are. This means that the process of looking for social structures online that map to their real world equivalents, as per Halavais' assertion, is a more complex process than simply filtering nodes by URL.

The next method I used to try and get a clearer picture of the significance of the different entities in the museum's network was to run the dataset through the data-visualisation tool Gephi – an open-source network visualisation and analysis tool developed at the University of Technology of Compiègne, France⁹¹. Although the dataset is the same, the two tools provide different views of the online network of the British Museum. By performing a co-link analysis of the BM's network, IssueCrawler allows us to get a sense of the shape of the network, by revealing the organisations that are part of it, and providing a colour-coded breakdown of these organisations by top-level domain. This will allow us to make observations about the *kinds* of organisations that the BM interacts with online, in order to further examine the question of whether the BM can be said to be inculcating a sense of national identity online. The visualisation rendered by Gephi provides us with a sense of the *significance* of the different organisations within the network, and more specifically, their significance *in relation* to the BM itself, which will help us to make observations about the status of the different entities within the network:

⁹⁰ This was done using the ICANN Whois service:

<https://web.archive.org/save/_embed/https://whois.icann.org/en>.

⁹¹ See <<https://web.archive.org/web/20160926175254/https://gephi.org/>> for more background on the project and the software was developed.



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an indication of a strong relationship between them. As Easley and Kleinberg point out, in social media environments like Twitter and Facebook, links between entities may be plentiful, but they are rarely strong (2010: p.64). The authors define 'strong links' in these contexts as two-way communications back and forth between entities, while 'weak links' are created by passive connections such as single messages in which one entity is tagged or where one follows the other's messaging without actually interacting. So while the greatest number of links in the network may exist between the British Museum and Twitter, this is not necessarily indicative of a particularly robust relationship between the two.

While visualisations and network maps help to imagine the British Museum's network as diffuse, interlinked entities existing in cyberspace, it is also important to consider these entities from a qualitative perspective, if they are to inform any conclusions on the Museum's network and the issue of national identity online.

7.11 Summary of Results and Findings

In an effort to draw out the significant details of geographic location and relational significance, I checked every link in Table 1 for a location. This consisted of visiting each site, and looking for evidence of nationality or location. Of the 89 starting points in the network, 84 are located in British webspace. This was ascertained through two mechanisms - firstly looking at the ccURLs, which were either .ac.uk, .org.uk, .gov.uk or .co.uk and secondly, in the case of the sites which used generic tURLs like .org or .com, by visiting the site. This process and the results it presented revealed a correlation with the arguments made by Halavais and Baeza-Yates et al - that the majority of the entities in the BM's online network are other British sites, indicating that national similarities are mirrored in online networks, and conforming that 'the number of hyperlinks that cross international borders are significantly less than those that link to sites within the home country' (Halavais, 2000, pg 18).

After locating the BM's network in a predominantly British web space, the next step was to examine the entities within this network, in order to surface a profile of the kinds of institutions associated with the Museum as part of the network. In order to achieve this, the 89 sites in the network were coded by type, since the URL extensions are not always an accurate reflection of the nature of the site:

- Academic (universities and research institutes)
- Commercial (businesses or services)
- Funders (research councils and funding bodies)
- Governmental (Ministries and other government services)
- GLAM (Galleries, libraries, museums and archives)

- Non-Profit (registered charities with stated public service mandates)
- Statutory bodies (regulators, ombudsmen)

Seen as percentages of the entire network, the Museum's network consists of the following types of entities, ranked by percentage of the total:

- GLAM: 26 or 29%
- Statutory: 18 or 20%
- Commercial: 13 or 14%
- Government: 12 or 13%
- Funders: 8 or 8%
- Academic: 5 or 5%
- Non-profit: 5 or 5%
- Social media: 2 or 2%

These general results show that while there are more links to other British cultural heritage institutions, there is no preponderance of links to any of the other entities in the Museum's network, but rather a fairly even spread across the categories.

7.12 Conclusion - The Nation is in the Network

This chapter was concerned with looking for evidence of how a sense of national identity is established around British Museum's digital incarnation, and how this identity is bolstered and transmitted in the online space. Taking a methodological cue from current research into issue mapping and national webspace articulation, I used hyperlink and network analysis tools to reveal the constitution of the Museum's online network. Once this was established, and by using Actor Network Theory as a conceptual underpinning, I was able to draw several more conclusions about what the established sense of identity is, and how the network influences (and is in turn, influenced by) the formation and perpetuation of that identity.

What resulted was a series of network visualisations which revealed two significant characteristics of the Museum's network. Firstly, the webspace within which the Museum is located is overwhelmingly British and secondly the Museum's connections are to institutions which for the most part can be characterised as being part of the establishment of British society - government ministries, statutory bodies, charitable trusts and other museums and galleries make up a significant proportion of the BM's network. These two factors help to develop the argument that the national identity created and transmitted is actually to be found within the network itself. The network is the evidence of the nation, not only in terms of

providing the structural framework also as a result of the origins of the comprising nodes. Unlike issue networks, which map the how disparate groups coalesce around issues online, the Museum's network allows us to visualise a more static collection of institutions and organisations, which, while heterogeneous, also share certain critical characteristics. These characteristics (a common language, orientation towards academia and funding of research and the arts, civic engagement, online proximity to governmental ministries) prompt the argument that the Museum's current network in the digital space is not that different in character from the network it has been part of since the Enlightenment, as explored in Chapter 3. Nationality is defined, represented and bounded by the Museum's location in a network rather than the language it uses to describe itself. The digital contact zone has not yet been extended beyond the British webspace, and although the Museum might be embracing digital normativity in the descriptions and depictions of its activities, this transformation has yet to filter into the Museum's web-based existence.

Chapter 8 – Digital Transformation of the Institution

8.1 Introduction

The previous three chapters have examined the ways in which digitisation can have a transformative effect on museum objects, records and networks and the ways in which these digital outputs can be read for evidence of the BM's institutional identity online and offline. They have also explored the extent to which these digital assets, which bear traces of the Museum's personality, serve the Museum's transformed mission and objectives. So far, the findings have been that the Museum uses the web to increase its audience through digital projects – both on its own and in partnership with other significant institutions. These projects present a range of digital content created by the Museum and outside partners in a variety of ways, and much of this content can be seen to reflect the Museum's traditionally held values and practices of highly scholarly record keeping, comprehensive documentation, and the need to maintain public access. However, these well-adhered to practices have resulted in some cases where the histories described may be considered to be out of synch with recent approaches to narrative retelling in museums, and at times may make information public which is considered to be offensive to some communities. In parallel the research has also revealed that the arrangement of the digital content and the way the Museum has approached the architecture of its digital spaces has, at times, resulted in a lack of connectedness between sets of information, and created silos of knowledge, which are structurally incapable of taking advantage of the linked nature of the web.

In the light of these findings this final chapter considers the institution itself, and how digital transformation might have an effect on the structure of the Museum. It will probe the Museum's information infrastructure, the scaffolding which underlies the BM's purpose as a place of knowledge creation and knowledge organisation. In this, I am guided by the research of Susan Leigh Star, whose work on the infrastructure, classification and standardisation of information spaces and information systems (1996, 1999) has been foundational to my thinking. Star's overall thesis is that examining the infrastructure behind complex systems, from the sewerage pipes of large cities, to the categories of diagnostic tests, is essential if one is to understand these systems as symbols of social relationships (Star, 1999: p379). In this respect, a museum such as the BM undertaking digitisation of its collections and records as well as reformulating of its role as part of a distributed network of knowledge platforms, offers double the analytical possibilities - a chance to examine two sets of infrastructures: firstly, the information infrastructures of the digital and the pre-digital versions of the

museum and secondly, the knowledge creation infrastructure, or the intellectual nuts and bolts, which underpin the way the museum is structured. This knowledge creation infrastructure might include processes, such as scientific research and conservation, as well as products, such as research publications.

For the sake of brevity, however, this chapter will focus on one aspect of the knowledge infrastructures at the Museum - their documentation digitisation project. In this exploration, I will begin by detailing Star's formulation of the boundary object and boundary infrastructures as an analytical framing for examining the Museum's digitised catalogue. From there, I will consider how complex information types such as those which exist in museums are managed and standardised in order to bring them in to the knowledge infrastructure. At this point, I will discuss a cyclical paradox which I identify as being fundamental in museum computing. Namely, in order for heterogeneity and cooperation to coexist in the museum, a degree of standardisation is necessary in the documentation of the collection and in the catalogue. And this standardisation comes with the risk of flattening out the information, losing nuance and the possibility for multiplicity in meaning. But to not standardise, at least to a certain extent, risks losing any possibility of interoperability of information internally and externally, thus limiting the possibilities for cooperation. This raises a practical as well as a philosophical problem, and one which is not uncommon in the discussions of metadata schema for digital projects, where the need to balance granularity with interoperability and flexibility are key to the successful implementation of metadata schemata. What this paradox means for the British Museum as it undergoes digital transformation will be one of the focusses of this chapter.

To begin, I will define boundary infrastructures, and applying this definition to the museum context alongside an examination of the complexities of standardisation of museum data and the implications of this complexity for museum digitisation projects. This will be juxtaposed with an examination of existing research which uses the framing and application of boundary infrastructures in the context of digital cultural heritage and highlight the risk posed to the development of these infrastructures from what Van Heur (2010) refers to as the 'digital imperative' - a form of digital determinism which can have an effect on the planning and execution of digitisation projects. The contribution of complexity and the digital imperative to the structural paradox of heterogeneity and cooperation will form the basis of an analysis of COMPASS, and the chapter will end with suggestions for further research which addresses the need to balance complexity and interoperability in digitised museum collections.

Knowledge is given a spatial form in museums (Parry, 2007: p.11) by various processes of extracting meaning from objects. Artefacts and objects themselves are not knowledge - that has to be socially constructed and then associated with the artefact, in this case through records and text which can be disseminated, preserved, curated and accessed. (Borgman, 2010: 164). The form this knowledge takes is critical to ensuring its use: if it is reduced to individual artefacts that can be exchanged over a distributed computer network, there is, according to Borgman, a risk that communication is actually inhibited, rather than encouraged (Ibid). Rather, the knowledge needs to be built into an infrastructure which is useful to those who wish to access that knowledge.

Museums are also heterogeneous spaces, both in terms of the objects in their collections, the different professionals who work in them and with their collections, and the types of work being done (Gosden & Larson, 2007: p.5). In the material museum it is essential for the sustainability of the institution that systems develop which help all stakeholders find a way of working with this heterogeneity - objects originate in and inhabit different worlds, with different uses and different significances for different communities, all of whom need to be served. An illustrative example of this is the development of a particular discourse of multiculturalism around imperial-era museums in Britain such as the BM and the V&A. In these museums, the ongoing retention and display of collections of objects from around the world is framed as a means of building bridges between coloniser and colonised thus deflecting the criticism of neo-colonialism through the use of the rhetoric of multiculturalism (Adams, 2010: p.73).

Finding common ground, or at least a cooperative way of thinking and working with diverse objects with different purposes can be done through the analytical category of the boundary object, as framed by Star and Greisemer in their work on the Museum of Vertebrate Zoology at the University of Berkeley, California (Star and Greisemer, 1989). In their observations of the history of the museum, and the researchers working in it at the time, Star and Greisemer noticed that people with many different professional and non-professional roles interacted with diverse object types in order to produce scientific knowledge.

Star and Greisemer (1989) proposed the analytical framing of the boundary object as a means of incorporating the heterogeneity of objects they encountered in the museum, which were used in scientific work by a range of researchers. These objects varied in form from specimens of stuffed animals and geological samples to written descriptions of terrain and climate. They were used by scientists, collectors, university administrators and amateur naturalists to produce scientific knowledge, or the correct conditions for it to emerge. As a way of explaining how these diverse objects were used by people from distinct social worlds

(p.388), they developed the framing of the boundary object. Boundary objects are, by Star and Greisemer's definition, objects which are able to hold different meanings for different communities of users, but robust enough to maintain a common identity across these communities or sites (p.393). The framing of the boundary object is a useful way of considering objects in a museum, particularly if the objective is to consider what might be done with digitised museum objects, as has been discussed in Chapter 5. This chapter, however, is more concerned with the museum itself - a singular entity made up of smaller parts which acts as a model of information processing (Star & Greisemer, p.414). Can a museum meet the criteria of being a boundary object? And if it does, what might that mean for this thesis' exploration of the digital transformation of museums in general and the study of how digitisation has taken place in the British Museum in particular? This chapter will try to answer these questions by considering the museum as a boundary infrastructure, an entity which has grown out of the boundary object (Bowker and Star 1999, Star, 1999). This analytical framing is compatible with the conception of the museum as a contact zone discussed in Chapter 6. Both of these framings have been suggested as useful conceptual tools for museums as they reconsider their documentation practices and represent their catalogues online, since good boundary infrastructures and contact zones are spaces of contest, construction and evolution, rather than spaces where meaning is fixed (Gibson and Kahn, 2016).

By definition, boundary infrastructures consider heterogeneity as a prerequisite, while at the same time requiring an engagement with the infrastructure that underlies the system. In their work at the Museum of Vertebrate Zoology, Star and Greisemer observed how the structure and conventions of museum work provided a set of structured standards which made it possible for cooperative work to be done among representatives of widely different social worlds, including animal trappers, museum collectors, university administrators and others (1989: p.400-404). The nuts and bolts of their different practices had to be made compatible with the way the museum considered itself and worked towards its overall aims, although there were some differences in approach. The way to do this was through the application of what the authors refer to as 'standardised methods' (p.407) - a set of guidelines which ensured that, for example, trappers were discouraged from destroying the skulls of the animals they caught, while at the same time making collecting for the museum a financially rewarding and relatively straightforward task, thus ensuring a regular supply of the right kinds of specimens.

The calibration of these standardised methods is not easy, and the process of finding a way of balancing professional disciplines and practices with the overall goals is one of the

main reasons cited by the authors for the production of boundary objects and infrastructures (p.413). However, if we are to shift our attention from the specific case of the Museum of Vertebrate Zoology, and consider the ways in which cooperation can be encouraged in the context of museum documentation and the management of information, the production of boundary objects and infrastructures reveals a cyclical paradox which operates at both the technical and analytical levels of the boundary infrastructure. And engaging with this paradox is essential if we are to develop an effective critique of how digital cultural heritage projects manage and share their knowledge.

8.3 Boundary Infrastructures

In science studies, the development of infrastructures is a topic which has been well studied (Mayernik, Wallis & Borgman, 2013: p.22) but the application of these analytical concepts in cultural heritage, and in digital cultural heritage in particular, is still fairly nascent (Edwards, Jackson et al, 2013). The scholarly work which examines how infrastructures emerged in digital heritage has been situated largely in the library and archival branches of the field (Bearman 1995, Lynch, 2003, Borgman, 2010) while in museums, the focus has tended to be tied to museum practice, rather than theory. The development of infrastructure was often based on the scientific functions of individual museums, or the need for internal collection management tools (Chapman, 2015) and pre-dated the development of international standards such as MODES, SPECTRUM, Dublin Core and CIDOC CRM, and more recently, the Europeana Data Model (Chapman, 2015; Williams, 2010; Harper, 2010; Parry, 2007) which provided universal infrastructures for describing collections. These standards and descriptive infrastructures have made museum records and datasets more interoperable and allowed for the development of complex converged repositories online. However, this chapter takes a more abstract approach to the scholarly study of museum infrastructure - using the idea of the boundary infrastructure. This will allow us to consider the relationships between entities inside and outside museums regardless of the technical details which may make them interoperable or not.

Star and Ruhleder (1996) argue that infrastructure has eight distinct dimensions: it is embedded in 'other structures, social arrangements and technologies,' it is transparent to use and 'invisibly supports ...tasks,' it has a durable spatial or temporal reach or scope which allows it to extend 'beyond a single event or one-site practice,' in order to be used, it has to be learned as part of membership in a community of practice, it has links with communities and 'both shapes and is shaped by the conventions of a community of practice', it embodies standards by 'plugging into other infrastructures and tools in a standardized fashion', it is

built on an installed base and ‘inherits strengths and limitations from that base,’ and finally, infrastructure becomes visible upon breakdown (pg. 113). While the authors do not argue that all of these criteria are necessary, they do sum up the moment of the emergence of an infrastructure with a useful formulation for considering both museums and the web; that an infrastructure occurs when ‘the tension between local and global is resolved’ (p114). In their later work, *Sorting Things Out* (2000) Star and Bowker extend the idea of the boundary infrastructure and juxtapose it with the process of classification – a process they define as being both invisible and powerful. They present the two as independent but interrelated aspects which take place within the development of systems and which hold objects, people and institutions together (p.312-317). Despite some criticism from the fields of library and communications science (Fidel, 2000, Miller 2002) that they do not fully explore the definition of these infrastructures, for the purposes of this research, the eight dimensions outlined by Star and Ruhleder and the way in which Bowker and Star highlight the invisible classificatory work which forms the basis of an infrastructure provide a useful scaffolding which enables us to imagine that the BM could exist as a boundary infrastructure, comprised, as it is, by a range of different but interconnected networks of boundary objects.

In later writing, Star has alluded to scale as another possible determiner of infrastructure, implying that infrastructures emerge when communities use boundary objects for work which requires formalisation or standardisation (Star 2010, p.605). This argument goes some way to helping make the distinction between boundary infrastructure and boundary object, and allows us to imagine that the museum might be a boundary infrastructure, consisting of a variety of boundary objects used by different communities for a range of different work.

Bowker and Star offer some useful explanations of the functions they imagine for boundary infrastructures, which in turn provide a good starting point from which to consider whether museums fit the bill. Boundary infrastructures have a cohesive function, knitting together ‘relationships between people, things, moral orders, categories and standards’ (B&S p.286). Much like boundary objects, they also serve as a space in which to coordinate the work of different communities. Perhaps the most useful aspect of a boundary infrastructure is one which has already been explored in some detail in this thesis: the argument that boundary infrastructures are difficult to see, when examining the structures and standards of any information system. According to the authors, isolating the boundary infrastructure requires ‘a particular sensitivity to power dynamics in the classification of objects and information in an information system’ (Star, 2010, p.605). This sensitivity is key, since it is the implementation of standards for managing information which characterise the emergence of

the infrastructure. And these standards contribute directly to the standardisation paradox which underlies this enquiry.

8.4 Standards, Simplification, Infrastructures

Working from Star's formulations, Christine Borgman (2010, p.153) argues that digital libraries are a canonical example of the boundary infrastructure, because their contents can be useful to multiple communities, allowing them to carry meaning across the borders of multiple groups. Each group will interpret data differently, despite drawing them from a common repository (Borgman, 2010; Van House, 2004). For the purposes of this research it seems sensible to consider museums as able to occupy the same boundary position, with one critical caveat: Unlike libraries where the record sends you to the source of information, in museum, the information objects are the records, not the museum objects themselves. If anything, this caveat adds weight to the argument that digital museum collections can be read as boundary infrastructures, since it is only through the application of standards to the record that an institution like the British Museum, with a range of eight million objects with different provenance, materials and object biographies can create a coherent, useful record.

Despite this, though, museum documentation collections are not always comprehensive and can be complex entities in their own right. According to Seb Chan, this makes their data slightly more awkward to work with than library or archival collections, which, as far as memory institutions go, are more easily catalogued and digitised (Chan, 2012b).

This complexity, however, is precisely what Fiona Cameron sees as the potential strength of emergent new models for museums, which she terms 'the Liquid Museum' (2015). In her research on climate change and science museums, she argues that there is a risk in museums of the removal of complexity as a tactic: 'Museums treat information as politically neutral and communication as a one-way system, which is a consequence of a content production system that is centred on simplification and the removal of (rather than engagement or reckoning with) complexity' (2015: p.349, see also Cameron 2013 and 2014). Thinking about museums solely in these terms is, she argues, dangerously limiting, and results in linear thinking and knowledge production which inhibits a museum's ability to engage with the many networks and entanglements which comprise the relationships between objects, collections, users and narratives (Ibid). She argues that museums should be considered as complex adaptive systems, based within sites of complexity (Urry, 2003). These complex systems are responsive and adaptive, enabling them to produce content which can synthesise questions of diversity, dissent, conflict and ambiguity - issues which museums have

traditionally shied away from in favour of discourses of authority, certainty and fixity (354). Complex adaptive systems, according to Cameron, have seven distinct characteristics, which, I would argue are not incompatible with the eight dimensions of Star and Ruhleder's characterisation of boundary infrastructures. In fact, I consider the two types to be complimentary, and a combination allows for a powerful reconsidering of the museum as a complex and adaptive boundary infrastructure. Cameron draws on Ashmos and Duchon (2000) for her definition of the adaptive system and it bears the following hallmarks: it holds multiple and conflicting portrayals of variety, management of the system involves developing multiple and conflicting goals, there is a variety in the strategic activities, decision-making patterns are informal and decentralised, there is a possibility for a wide variety of interactions and connections for decision-making, the system fosters the creation of processes and structures that facilitate dialogic communication and finally, the system generates multiple interpretations and structural flexibility (Cameron, 2015, p345). Cameron's overall argument is that thinking about museums as these complex systems encourages fluidity and flexibility, and provides the museum with the capacity to shape and reshape itself, and allows for a synthesis of internal influences such as collecting practices or institutional history, and external factors (Ibid). In this sense, the complex adaptive museum echoes the museum as boundary infrastructure, as it adapts to invisibly support the different requirements of the diverse communities it serves. These theoretical framings are useful for imagining what museums might be, but it is important to remember that there is a practical aspect to this question of how museums are to manage the complexities of their contexts and subjects, which are essential if the information contained within the museum is to be usable at all.

Ingrid Mason (2007) argues that standardisation of cultural heritage information promotes consistency in the way information is structured and shared, and that standards can be read as determiners of what makes an object significant and legitimate its inclusion in a collection. As a result, they are also, she argues, socio-political in nature (p.223). In her formulation, information standards, such as metadata, are synonymous with information systems. Standards, she argues, are technical and intellectual in nature, while the systems and practices that are enabled by them are social, and neither are neutral (p.234). Both systems and standards influence and are affected by their socio-political contexts, and while they augment collections by providing access, they also contribute to cultural expressions of regional, national and global bias (p.231). For her, this risk of perpetuating bias is one of the reasons why the development of standards for cultural heritage information can only be developed collaboratively, in order to balance out the risk.

However, with collaborative development and the desire to be inclusive comes the risk of over-complexity. Recent research indicates that while museum professionals favour objectivist approaches which favour simplicity but can be characterised as authoritative (Alemu, Stevens and Ross 2012), the reality is that metadata management and interoperability in museums is still a significant barrier to the development of digitised collections (Makris, Skevakis et al, 2013; Terras, 2012; Park, 2009; Chang & Zeng, 2006).

There is also a risk involved in making allowance for too much complexity in digital heritage in general and in digital museum collections, as the following example will illustrate. In the context of digital heritage, Van Heur (2010) explored the development and implementation of a city-wide strategy for digitised cultural heritage management in the Dutch city of Maastricht. In this research, he makes use of the term 'digital imperative' as a shorthand for the belief in the necessity of digitising cultural heritage and an over-reliance on this digitised heritage as an agent of social change. This, he argues, can lead to unmanageable and unrealistic expectations of what digital technology can offer in the cultural heritage sector. Van Heur's study (which made use of organisational theory as its framing) found that contextual and institutional complexity has a significant effect on the development of a digital heritage project from the outset, and impacts both the initial expectations of what can be delivered and the end result, which may not live up to those expectations (p.411).

Parry has a two-fold warning for museum practitioners in the light of the dazzling possibilities promised by technology in museums. Using Šola's (1997) work as a basis, he argues that a grounding in theory is crucial if museum professionals and scholars are to be able to avoid falling into the trap of technology of technology's sake (2005, p.333). Far from implying that scholars and practitioners are blind to this risk, he references both early museum computing and contemporary theory in *Recoding the Museum* and points out that museum professionals expressed concerns about the issue of technological determinism in the late 1960s, as well as in the last decade (2007: p.128). That this issue has been a concern for almost as long as museums have been experimenting with computing technology is an indicator that it is both significant and a difficult problem to solve.

Wellington and Oliver (2015) make the case that museums are increasingly competing with each other for digital prestige which can manifest in the roll-out of platforms and tools before their affordances are fully considered. They argue that the adoption of digital technology is best undertaken after comprehensive assessment through a sociocultural lens in order to be sure of its relevance and utility (p.587). There is nothing in the literature published by the BM staff involved in the catalogue digitisation which was examined in Chapter 4, or will be examined later in this chapter which might support the argument that

the Museum rolled out their catalogue before it was ready. But these critiques do have some resonance in the light of some of the Museum's public statements about its digital ambitions. These will be examined later on in this chapter.

In a critique of the academic and theoretical discourse around the transformational potential of technology, it would not be appropriate to conflate the risk from a technologically determined imperative and the very real difficulties of museum computing, but there are important points where the two issues correspond. Realising the constraints of technology can be a useful reminder of the need to ask why certain technologies are being deployed in museum contexts. Seb Chan and Mia Ridge have both written about the difficulty of extracting information from museum datasets based on collections records. Chan, who has worked on the digital databases at the Powerhouse and Cooper-Hewitt museums reminds us that data on its own is not much use: 'Philosophically, too, the public release of collection metadata asserts, clearly, that such metadata is the raw material on which interpretation through exhibitions, catalogues, public programmes, and experiences are built. On its own, unrefined, it is of minimal 'value' except as a tool for discovery. It also helps remind us that collection metadata is not the collection itself.' (Chan, 2012a) Both Chan and Ridge cite the lack of standardised terms in museum databases as significant hindrances, making it impossible for computers to recognise patterns or entries of the same data with minor spelling or punctuation variations. Ridge argues that 'The quality of collections data has a profound impact of the value of visualisations and mashups. The collections records would be more usable in future visualisations if they were tidied in the source database' (Ridge, blog post, 2012). However, the amount of work required to update and improve records in such a way would be far from trivial, as outlined by Blanke and Hedges (2013: p.657) in their survey study of digital humanities research infrastructures.

The British Museum's shared vocabulary and authority files, which were briefly discussed in Chapter 4, are one way of working around this problem. Rather than addressing the underlying records, they act as connectors between them, which make creating links possible, without having to rewrite all the records. However, the Museum's information architecture as it is currently deployed creates a drawback – while the shared authority file enable the creation of connections between objects in the COL, they do not extend beyond the catalogue. The lack of integration with the Museums linked open data repository, Research Space, also means that the information remains confined to the COL, and users are not able to take advantage of the web of linked data (Szrajber interview, 56.45 and Stribblehill interview 1.34.16).

8.5 Boundary Infrastructure as a means of managing complexity

This chapter has used a variety of theoretical and practical approaches as the basis for building a theoretical concept of museums which are complex and adaptive, as well as co-operative and standardised. This would allow them to be spaces where complexity can be encouraged as a means of bridging communities and practices of knowledge discovery, but also where there is enough standardised infrastructure (such as metadata or repository architecture) to make connection and interoperability possible. This formulation brings us back, however, to the paradox highlighted in the introduction: if museums are to be complex and multivocal spaces of conjuncture and intersection, they will need to be heterogeneous and co-operative at every level. And in order to do that, they need to be interoperable. However, the crucial requirement for interoperability is standardisation, and that requires simplification. This need for standardisation is most obvious at the level of the information infrastructure, but this requirement is not only practical. Revealing this paradox is not a solution to the problem, but it is a first step towards finding a solution. Exposing the knowledge infrastructures on which are built, and including the constructed and changing nature of this knowledge is one way museums have begun to rethink the use of their catalogues and databases as boundary infrastructures, encouraging transfer without fundamentally compromising the integrity or interoperability of the records (Gibson & Kahn, 2016). However, if museums are to go further towards becoming the complex, adaptive boundary infrastructures, the standards which shaped the knowledge infrastructures will need to be interrogated in much more detail, otherwise the entire enterprise will be built on foundations that are structurally unsound.

The following section will look at an example of one of the British Museum's digitisation efforts, which initially appears to be an excellent example of what a digital boundary infrastructure developed by a museum could look like and the connective functions it could perform. COMPASS was a project designed to bridge the experience of visiting the museum in person and online, and provide a physical context to the exploration of museum objects. It was intended to provide new pathways into the collections for users, and to bring some objects which were too fragile for public display out of the store and into the public eye, through being digitised and displayed online and onscreen in the Museum.

However, a closer reading of the example reveals significant problems of complexity and authority, which the Museum was not able to adapt towards, and which eventually led to the removal of the project from the museum's website and the withdrawal of the digital access terminals in the Museum. While the information and records developed in the project were

supposed to be transferred to the Google Cultural Institute, my research has revealed that this was not necessarily the case. As a result, there are now significant gaps in the records and general information provided by the Museum and Google, which raises doubts about the robustness of the information infrastructure which the Museums uses as the basis for their knowledge sharing projects. In turn, this raises questions about their conception of knowledge and how it forms the basis of the Museum's stated desire to be the universal museum in Bloomsbury and on the web.

The COMPASS project can be read as an example of a project which was intended to act as a boundary infrastructure, but which suffered from several structural and conceptual difficulties. In this course of this analysis, I will show how these difficulties had their roots in several areas. Firstly, there is a distinct sense of the influence of the digital imperative (Wellington & Oliver, 2015) in the way the project was developed and deployed. Secondly, the Museum's complex internal structures, web geography and layout, and the way it chose to encode and package the digital assets both affected the usability of COMPASS. Physically and digitally, the architecture of the BM forced users to go where the Museum wanted them to go, rather than giving them any choice. Finally, the Museum's vision for the project, in juxtaposition with the reality of their financial and technical resources contributed to their decision to develop a partnership with the Google Cultural Institute, which resulted in an imbalanced solution to the problems of COMPASS, and the subsequent removal of much of the data and information from the web. This loss of access to the information is a useful reminder of the potential consequences of overly technologically-focussed digitisation projects and the difficulties facing museums as they attempt to build complex digital infrastructures and contact zones for their collections and communities.

8.6 COMPASS at the British Museum

When COMPASS launched in 2000, it was intended to serve a dual purpose – to allow museum visitors new ways of exploring the Museum's collections, and to provide a new use for the Museum's central Round Reading Room, which was being overhauled at part of the Museum's Great Court renovation (Loverance, 1998: p.6-8). It's important to note here that the project was not envisioned as a web project – it was intended to be accessed via in-house terminals. With the intention of using multimedia technology to build connections between objects across galleries (Marshall, 1999, p.111) objects were selected by curators from across the Museum, including those which, for conservation reasons could not be displayed, but which would be able to be seen once digitised. The aim was to display these objects in context, by experimenting with different narratives and themes as ways of searching and arranging

the objects, and presenting them for access. Initially, objects would be accessible in the Museum using custom-built screens which would be placed in the Reading Room, and which were designed to complement the leather-covered desks which, as Grade I listed heritage objects could not be removed (Marshall, 1999 p.111). Later, software integrated with the Museum's database and website made it possible for this material to be viewed online.

The text accompanying the objects was intended to be based on their catalogue records (not all of which had been digitised by that point) but, according to Fiona Marshall, who was one of the content managers on the project, they soon realised that these descriptions were not detailed enough:

'We found, however, that the collections database, produced as it was largely for curatorial use, did not include the sort of introductory information that we needed for our text narratives. These could in part be sourced from existing books and gallery labels, but in almost every case has had to be edited - and often written from scratch' (Ibid: p.112).

The project team envisioned these narratives as 'encyclopaedia' records, which could be linked through the Museum's repository architecture to the object records, but were distinct, standalone descriptions, and were compiled by a combination of curators and freelance writers (Ibid, see also Szrajber, 2007). As a result, some objects had lengthy descriptive entries, taken from previously published research catalogues⁹² while others were shorter, and provided less information, as is the case with the object described below. Neither types were integrated with the catalogue records, but were linked through shared thesauri.

If we apply Star and Ruhleder's dimensions of a boundary infrastructure to the project, we can see that it had the potential to meet the criteria - it was embedded in other technologies, both digital (the Museum's website and database) and non-digital (the museum itself). It demonstrated spatial and temporal durability, shaped and was shaped by the communities of practice who developed and used it, and it inherited the strengths and weaknesses of the installed base on which it was developed. It was intended to bring museum visitors and online users together into a common repository, and provide them with extended narrative information which would be useful to multiple communities, encouraging the transmission of meaning across communities, even though allowing them to carry meaning across the borders of multiple groups. But this leaves us asking why, if the project was

⁹² See description of a limestone head from Phoenicia, circa 570 BC:
<https://web.archive.org/web/20110429111112/http://www.britishmuseum.org/explore/highlights/highlight_objects/gr/1/limestone_head_of_a_worshipper.aspx>.

intended and designed to be able to provide a robust infrastructure for the explorations of different layers of meaning in the objects, was it removed from the web when the Museum's partnership with the Google Cultural Institute launched in 2016?

It is difficult to find evaluations of the project, either in the BM's internal documentation or in the academic literature. Mattes (1999), Bowen (2003) and Krause (2004) evaluated the prototype and online versions of COMPASS in order to gauge levels of accessibility for museum patrons with disabilities, and found that the website's provisions for users with visual impairments were rudimentary and would have benefited from the addition of audio, but none of these studies critiqued the underlying information architecture or infrastructure, or the ontological underpinnings of these constructions. The Museum staff interviewed expressed a range of opinions about the project, from Griffiths' observation that COMPASS was a mistake which should not have happened (Griffiths interview, 25.20) to Szrajber and Stribblehill's more circumspect explanation that COMPASS was an entirely separate entity to the work of the COL and the collections data management team (Szrajber and Stribblehill interview, 30.52).

However in the light of the gaps in the scholarly critique, the following section intends to demonstrate the differences between the underlying infrastructures, by way of a comparison between the archived version of a COMPASS object and the same object's COL entry record. I also intended to look for possible points of disconnect, which would have pointed towards possible reasons why the COMPASS encyclopaedia entries were removed.

As the COMPASS objects are no longer available on the Museum's website, and neither are their accompanying texts; the only way of accessing this information is via the Wayback Machine. In the case of the following example, I used a combination of the Wayback Machine and the COL advanced search to look for the two records of an object in order to examine and compare the way standardised terminology was used in the two different versions. The object I chose to trace is a small knife with a jade handle, originating in 16th century Ottoman Istanbul. In the COMPASS version of the objects record, accessed via the Wayback machine, I was able to see a photo of the object and a description, as is visible in the image below (Fig. 8.1):

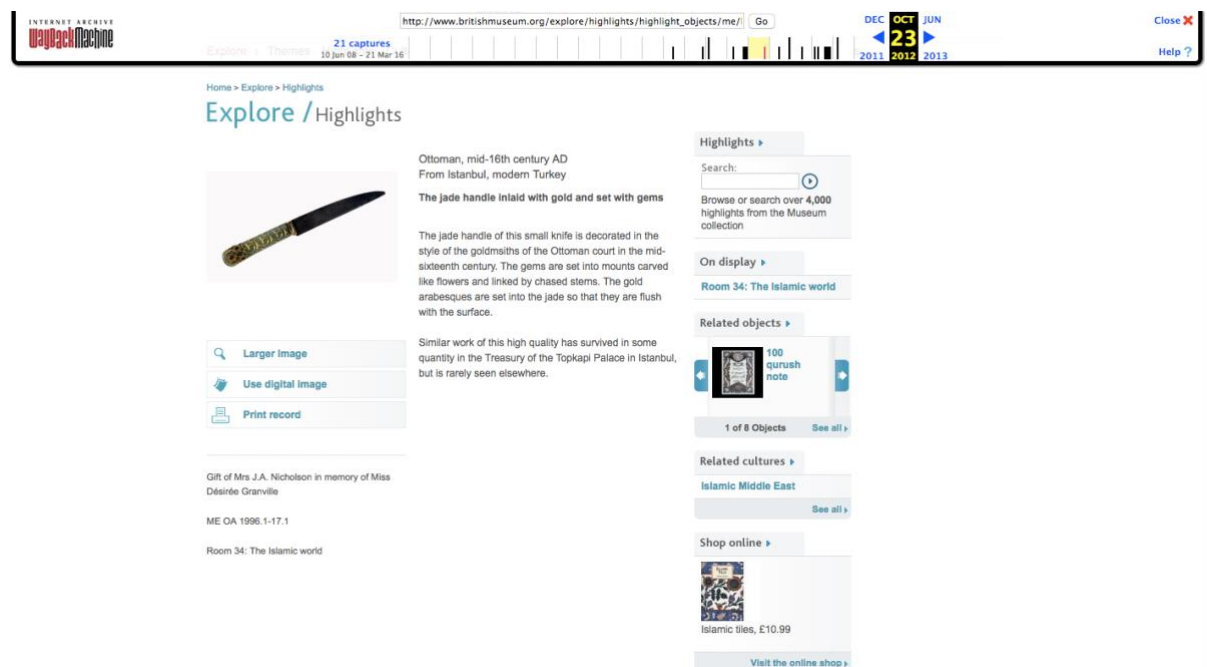


Fig. 8.1: Screenshot of Ottoman jade knife

No dimensions are given for the knife, but the materials it is made of are described in the free-text paragraph alongside the image. The provenance of the objects is listed as being a gift from Mrs J.A. Nicholson, and a reference number ME OA 1996.1-17.1 is also listed. While there is great variation in the form of the British Museum registration numbers⁹³, the number likely refers to the fact that the object is part of the collection of what was then the Department of the Middle East, Ottoman Antiquities, and was accessioned in 1996, on the 17th of January, and was the first object accessioned that day. Armed with this information, I then turned to the COL to find the full catalogue record for the knife. Since the COL allows users to search across multiple fields, I assumed that the archived record would provide enough information to relocate the knife. However, I was unable to find the object in the online catalogue, despite searching for the material (jade), the object type (knife) the culture or period (Ottoman) the people or organisations related to the object (J.A. Nicholson) or the reference number. There are several possible reasons for this - the record could not yet have been entered into the database - since COMPASS records were recreated as standalone documents, the corresponding COL record may not yet have been updated. Alternatively, the details may have been found to be wrong, and the object had been reclassified. The terminology in the COMPASS version of the record and the terminology in the COL might have been so divergent as to render the object unfindable using the same terms for the search.

⁹³<https://web.archive.org/web/20160926175415/http://www.britishmuseum.org/research/collection_online/collection_search_guide.aspx>.

However, as an example of how standardisation is essential for keeping information available and usable, this is a powerful (if frustrating) example. Regardless of the reasons for my inability to locate the object in the COL, what is evident is that the descriptive standards on which the search infrastructure was built have not been used across the record which means that once the COMPASS version of the record was removed, the object and all its associated data have effectively been removed from the web, with the resulting loss of that information.

On the Google Cultural Institute page, where the objects from COMPASS were supposed to be made accessible, there is no filtered search option, and the only way to find the knife would be to scroll through images of over 4000 objects in order to locate the knife and its record. The free text search box does not allow the user to search only the BM collection, so a broad search using the terms 'British Museum knife' gave 77 objects as results, including images from the 2015 Venice Biennale which had been tagged with the term 'knife'. There was no mechanism for refining the results, and none of the 77 objects rendered were the Ottoman knife in question.

Of course, this does not necessarily mean that it is not in the online collection, but if it is, it is difficult to find. This means that a user of this version of the British Museum's collection who is interested in a particular object and its record will have to find alternative strategies of searching for this knowledge, meanwhile it is impossible to know whether this information is available or not. As a virtual version of the Museum, the Google Cultural Institute offers very little infrastructure for knowledge discovery or distribution.

8.7 Analysis

This example raises several issues, which can be formulated in different ways but which all ask a similar question: why was COMPASS, a collection which bore the properties of a boundary infrastructure, taken off the Museum's site and why was the replacement which was provided incomplete?

It's important to note that this removal is not necessarily an indicator that the project was a failure as a boundary infrastructure - since the Museum has given no real indication in its public messaging and documentation of why the project was removed we cannot know for sure. Thus, this analysis requires using some of the theory already discussed, and positioning oneself as a user of the site in order to try and conduct an evaluation.

In order to do this, I have broken the issues down into three main formulations - the issue of authenticity, the issue of the digital imperative and the issue of expectations. In my

analysis, none of these three formulations invalidate COMPASS' potential as a boundary infrastructure, but they do point to internal complexity which made the project difficult to sustain. This leads me to consider the possible conclusion that if the internal infrastructure which organises knowledge in a digital heritage project is not in synch with or complimentary of the boundary infrastructure, it may be difficult for the one to contribute to the maintenance of the other.

The issue of authenticity also deserves some attention. In museums where digitisation work is taking place, authenticity is a complex question - until the arrival of automation and computing in museums, the primacy of objects and their related material culture had been the focus of museum activity for many hundreds of years (Parry, 2007: p.58). With the introduction of technology, many commentators and practitioners began to debate the binary formulation of 'virtual versus real', and this narrow discussion continued during the period while COMPASS was being developed (Ibid). The somewhat reductionist virtual vs real discussion is not particularly useful in the context of this research, and should be integrated with more nuanced discussions which factor in research into visitor experience and expectations if it is to be useful. Did visitors in Bloomsbury simply prefer looking at an object, even one behind glass in a crowded gallery, over looking at in on a screen, in a room in the same building? Were the online versions somehow unsatisfactory, even though they have been enhanced with more information, connections to other objects and larger images? Griffiths has described the tension among museum professionals over the question of technology as a tool in museums as being characterised by two perspectives: Either for technology can enliven and enrich the experience of visiting an exhibition, or it is seen as a threat to authenticity which brings with it the risk of 'vulgarising museums, turning them into commercialised sites for "edutainment"' (Griffiths 2003: p.375-7). Michelle Henning argues that these perspectives are too narrow, and do not make allowance for the many similarities between museum knowledge structures and the way new media develops its own knowledge structures, and that both perspectives overestimate the potential impact of technology in the museum setting (Henning in Acland, 2007: p.50). She, and others, have argued that increasingly research has shown that as museum visitors and curators become accustomed to the remediating presence of virtual versions of material culture in museums, be it through digital displays, 3D renderings of objects or recreations, there is a growing acceptance that museums themselves are multimedia spaces and that exhibitions are idea, rather than object-driven (Graham, 2015, Hollinger et al, 2013, Styliani, 2009). In contrast, however, research done on the way users and museum staff engage with digitised museum collections, particularly in the area of museum education, points to the argument that issues of authority

and control are still a reality, particularly in the educational context, where the pedagogical focus is on the individual subject, rather than the object. Bayne, Ross and Williamson's research into how museum users viewed digital objects from nine English National Museums revealed the perception among their interviewees that 'there is a tendency to emphasise the importance of presence, of possession - the real object enclosed in the real museum space - and to see the digital primarily in terms of its 'enhancement' value, its ability to prompt or enrich the 'real', physical museum learning experience' (2009: p111). What this leaves us with is a disconnect – museum theory seems to be directed at making the argument that authenticity is a construct and museum visitors are sophisticated enough to know the difference between 'real' and 'other' and not be particularly bothered by it. However, visitor research seems to indicate otherwise.

The difficulty in reconciling these different perspectives makes it impossible to state categorically that COMPASS was taken down because of issues of authority and authenticity. But it does raise the possibility that, in the on-site version at least, users may have preferred to see the object in the context of the galleries rather than as an isolated object onscreen.

The second set of issues raised by the COMPASS project are related to the digital imperative and complexity issue mentioned earlier in this chapter. Based on Van Heur's example of the impact of a digital imperative and organisational complexity on a digital heritage project (2010), it is possible for us to ask if these factors could have had an impact on the COMPASS project. Did the Museum fall into the trap of 'if we build it they will come' and, driven by the digital imperative, build what Christine Borgman refers to as an infrastructure *of* information rather than a structure *for* information (2010: p.150, emphasis added)? Analytically, this distinction is useful - despite the links from the COMPASS page of the knife to other objects and galleries, the options for using the tool as way of building a route through the Museum's collection are actually fairly limited. In the absence of links from the encyclopaedia to the catalogue, it is difficult for the user to find other items with the same attributes, other than those the Museum has created links to. There is very little autonomous searching that can be done - as Wilson (2011) found in his analysis of the code behind the Museum's site, and his critique of the Museum's online Ancient Cypriot research catalogue, the HTML of the site provides a very specific narrative line for users who engage with the site, and the possibilities for diverging from this narrative are minimal (Ibid: p.384). What may appear, initially, as a neutral or objective representation of an object is actually a version which excludes other narratives, and offers a version of history which is mediated by the Museum's choice of technology as a tool for navigating the collection (Walsh, 1997; Witcomb, 2003: p119).

The web and multimedia formats promises to provide users with the means of building their own routes into the collection and their own maps to navigate through it, and according to Marshall, this was one of the objectives of the project: 'We hope to excite visitors' interest in the objects and to use the capabilities of multimedia to make links between objects and across galleries' (1999, p.111). However, the underlying architecture and infrastructure of COMPASS did not allow for this degree of freedom. At the same time, this restricted end-product was the result of a complex development project, described in the articles by Marshall and Loverance. This complexity included the re-creation of descriptive entries - effectively rewriting material which already existed in the records and catalogues (Marshall) and a complex front-end development process which required the Museum to partner with an outside consortium (Loverance, p.8).

There is also a temporal element to the critique that COMPASS was over-complex. The museum-based version of COMPASS was intended to be housed in the Round Reading Room, a space which, while central in the Museum's layout, is not connected by passages or walkways to any of the galleries in which the selected objects are stored. Navigation and orientation in the Bloomsbury site is an area which the Museum acknowledges is problematic (Museum of the Future Report p.16) and they are considering digital means of addressing this. However, the removal of COMPASS might have been a response to user reluctance to look at objects on screens in one part of the Museum and then have to find their way through the building to get to the object itself. The use of the Reading Room also presents the problem of what Peter Higgins refers to as 'the heroic wrapper' in museums, where the space, either custom built or repurposed, is not fit for the use to which is it put, creating a sense of dislocation for the user (Higgins, in Henning (ed) 2015: p.308). The Reading Room is a difficult space for the Museum - it was vacated by the British Library in 1997, and until 2013 was used temporarily for special exhibitions, as well as for the COMPASS installations. It has been closed since 2013 while the Museum consults on its future.

The third issue, that of expectations, is closely tied to the previous one. The Museum has repeatedly stated an aspiration to make its collection available to everyone in the world with a web-enabled device, to be the private museum of the world, and the most significant resource anywhere for understanding how humanity shapes its world (2020 Strategy document, p.5). However, underlying the aspiration is a lack of engagement with the practical realities of what achieving these aims will require. In the same document, the Museum states bluntly that 'investment will be required to build the world's leading museum in the digital and online world' (Strategy to 2012, p3), but technological aspiration requires more than investment - it requires an understanding of what technology is capable of, and where it's

limits lie. Lorna Hughes points out that there are often very good reasons to not digitise materials, including the fact that, on its own, it is not an adequate preservation strategy, it does not necessarily save space, as since long-term preservation of digital files is prohibitive, it does not necessarily save money, and finally, not everything is worth digitising (Hughes, 2004: p.50-52). As Parry (2013) points out, the 'revolutionary' capacity of technology in museums has been a trope in the discourse since the 1960s. In contemporary museums the presence of computers and digital media are not only accepted by curators and exhibition-makers, but increasingly expected by visitors looking for new insights (Griffiths, 2003) but there is still a sense that how technology will achieve these aims is invisible, 'buried in an infrastructure, wrapped in a black box' (Millerand & Bowker, 2009: p.150). As the analysis of the project has shown, the expectations for COMPASS were high, but the relative inflexibility of the structures behind the project, in terms of both the way the information architecture was arranged, and the way the Museum deployed it on-site meant that it was in fact unable to meet those expectations.

While much of the detail of these considerations are based on secondary evidence and hypothesis, it is also possible that the reasons for the removal of COMPASS can be attributed to combination of all three formulations, with the added component of museum funding. At the Museum, finding funding for digitisation work has been difficult since the catalogue digitisation began (McCutcheon, 1986; Parry, 2007) and this is not a situation unique to the BM - as Chong (2015: p.190) points out, government funding for the cultural sector in general and museums in particular has stagnated in the UK. The Museum has already acknowledged the need to develop partnerships with other institutions and commercial organisations who have the financial and technical resources to do the kinds of digitisation work they would like to do (Towards 2020 document). However, these partnerships may become sources of tension between what Hughes (2004) refers to as 'two cultures - technologists and cultural heritage professionals' (2004: p.141) with different expectations of what cultural heritage online might look like. In an interview with Bloolooop, a news website for professionals working in the visitor attraction industry, Chris Michaels, the Museum's Head of Digital acknowledged the Museum's need to develop working relationships with commercial entities: 'There's so much untapped potential and we're not going to build AI [Artificial Intelligence] ourselves - let Google and Apple take care of that - but we can utterly be side beneficiaries of that' (Bloolooop interview, December 2015). However, the interests of commercial companies and cultural heritage professionals do not always align, as evidenced by the response from librarians and other scholars to the Google Books digitisation project (Jenneney, 2008; Battelle, 2011; Hillis and Pettit, 2012).

While it may not be possible to know the exact the reasons for the decision, the removal of the COMPASS encyclopaedia entries and the resulting difficulty in locating or re-locating certain information means that from a user's perspective, some knowledge has become harder to find via both the British Museum's website and their partnership with Google. In this case, the use of technology did not only make finding information more difficult, but it restricted the way that the Museum's site could be seen to operate as a boundary infrastructure for increased access and co-operation. The resulting infrastructure was opaque rather than transparent, had a finite rather than durable temporal scope, was not able to be used beyond a single instance, and was not developed in a standardised way. However, merely critiquing the project is not a solution. Rather, this chapter should be seen as an example of how planning for a project like COMPASS should be done using the schema of the complex, adaptive boundary infrastructure from the beginning. This would have enabled greater integration in terms of the technical, geographical and organisational structural complexities which became stumbling blocks once it was deployed. As a guideline for considering the digital transformation of institutions, the complex adaptive boundary infrastructure still holds promise as a model for ongoing development.

8.9 Conclusion

This chapter has built on the preceding ones which examine the effects of digitisation on different aspects of the British Museum's institutional identity and museological practice on the web. The focus in this section has been the knowledge infrastructure of the Museum, and the critical role that this infrastructure has to play in the way that the British Museum considers and presents information, and thereby, a particular identity to users online and visitors in the museum. Like all systems, this infrastructure is not neutral - hidden within it are biases and assumptions which reflect the history of the Museum, the way it has developed a conception of knowledge, and socio-political influences of the time. These biases can be revealed on closer examination of the records, and of the infrastructure itself, from code behind the Museum's website to the privileging of certain informational aspects of the records over others. These biases may not be intentional to those who worked to extract knowledge from the objects in the collection – as Star and Griesemer (1989), Chan (2012a, 2012b) and Ridge (2012) have all shown, the heterogeneity in museum collections, museum data and museum work make standardisation a complex undertaking. However, a degree of standardisation is critical to creating a space in which diverse work can be undertaken and diverse knowledge created. This situation reveals the paradox which, I argue, is central in the way museums manage knowledge, and must constantly be addressed. This paradox sets

complexity and nuance against co-operation and flexibility. Finding a way to manage the heterogeneity and detail of scientific work in the museum with the need to standardise knowledge infrastructures sufficiently to enable work to be done is an ongoing concern.

I then presented two conceptual possibilities for the form of museums which might be used to mitigate this paradox. The one is Fiona Cameron's Liquid Museum, a model which imagines museums as adaptive spaces where complexity is embraced rather than avoided, and the constructed nature of knowledge is revealed, rather than masked in favour of striving for 'objective' truths. This model represents a radical ontological refashioning of institutions and their practices (2015: p.345) as a response to the challenges facing contemporary museums. And while the flexibility and adaptiveness Cameron imagines allows for responsiveness in the institution, it is difficult to see how the liquid museum could balance the need for standardisation with detailed knowledge.

The second model is the boundary infrastructure, developed by Star and her cohort. These are infrastructures which, among other things are embedded in others, transparent to use, temporally and spatially durable, can be learnt as part of a community of practice, embody certain standards and become visible on breakdown. These infrastructures are able to bridge different social and technical worlds, enabling individuals and objects from diverse origins to work together within the infrastructure to create new forms of knowledge. This model presents us with the opposite concerns to the Liquid Museum. The degree of co-operation possible within the boundary infrastructure requires a level of standardisation which might risk flattening out some of the information to an extent which limits its usefulness.

The discussion then moved on to examine an example from the Museum's digitisation work. Although it was not explicitly designed as a boundary infrastructure the COMPASS project bore several of the eight dimensions which define boundary infrastructures (Star & Ruhleder, 1996). However, COMPASS was removed from the Museum's site in 2015, and the images and resources transferred into the Google Cultural Institute, with the loss of some of the data associated with the objects. The Analysis section of this chapter examined the project and tried to understand why it might have been removed, and questioned its success as a boundary infrastructure. Using a three-fold approach, I examined the project through the lenses of authenticity, the digital imperative and the question of technological expectations, in order to ascertain why the project had been shelved. I concluded that the project was overly complex from spatial or technical perspective – users who made use of the on-site version of COMPASS needed to navigate through the Museum's confusing layout to see the real versions of objects. Technically, the way COMPASS was built was as a bolt-on to the Museum's website,

meaning it was not effectively integrated with the rest of the Museum's online resources, and users unable to make connections between objects and resources. Meanwhile, the recent incarnation of the COMPASS material in the Google Cultural Institute is difficult to navigate, and cannot be searched using a range of terms. The site channels users into a restricted route through the collection, with the result that it is still difficult to build connections between objects. This makes the information difficult to access, and raises the possibility that some of it may no longer be accessible.

What the example of COMPASS and the analysis have revealed is that the Museum remains rigidly fixed in its approach to knowledge infrastructures. The flexibility and adaptability described by Cameron are not visible, and the lack of connections between knowledge sources can be seen as a metaphor for the way the Museum thinks about knowledge more broadly: the institution decides how knowledge is to be arranged, organised and communicated. This paternalistic approach by the Museum has been critiqued in the past (Coombes, 1994; Coombes & Philipps, 2015). However, it would seem that these critiques have had little impact, while the Museum's global aspirations have grown.

This chapter ultimately uncovers more questions than answers, when it considers the transformations resulting from the digitisation of infrastructure in museums. More work will be needed on the history of knowledge infrastructures as a way of rethinking the narratives in museums, in the same way that some scholars (Beltrame, 2016; Gosden, 2008) are rethinking the records and Wilson (2011) is considering the code of museum websites. One approach would be to map the emergence of the documentation conventions with the development of the infrastructures in order to ascertain how, for example: classificatory models emerged alongside the technologies in which they were recorded.

If exposing the processes of catalogue and record making is a way of reconsidering biases and silences in documentation, and spatial and architectural studies reveal meaning in the physical spaces of museums, it is possible that peeling back the processes and decisions which inform how standards and infrastructure developed might achieve similar ends. It may reveal how significance is determined, and how the repository infrastructure and architecture shapes the knowledge it is designed to contain.

Chapter 9 - Conclusion

This thesis sought to question what happens to the identities embodied in and projected by a museum as it undergoes digital transformation, and how these identities are manifested in the digitised collections, and subsequently communicated through the ways in which the Museum uses and manages its digital assets. Conversely, it questions the technologically-oriented approach, which treats cultural heritage collections as generic containers and sources for data and overlooks their institutional histories and established identities as significant components in the development of useful, relevant digitisation projects.

To address these questions, and give instance to the critique, the research made a critical study of the British Museum, using a combination of original fieldwork (interviews, observations, archival searches) and a review of already-published data. The Museum's size and age were factors in its selection, since they guaranteed a broad range of collections with varied object biographies for examination. The BM's distinct position as a public institution, and its history of close association to the apparatus of the British state, such as Parliament, were also factors which had a significant influence in its selection. More significant, however, was the Museum's self-declared universal identity. This characterisation represents a self-conscious re-orientation on the part of the BM from being an imperial museum, to a universal one with a self-imposed responsibility to protect their collections for all of humanity. This reframing is widely seen as a way for the Museum to avoid disputes over ownership of material that could be understood to have national significance for other countries (Watson & Sawyer, in Aronsson & Elgenius, 2014: p.100). The research also reveals how universalism itself can be read as an identity that is distinctly British, thus arguing that, in the case of the BM, the universal identity is also a national one.

Working from the position that identity influences the way collections develop and how knowledge is produced in museums and subsequently presented to the public, the research showed how these identities shaped Museum's unassailable voice and how this voice has been embedded in the digitised collections. This voice is, at times, predominant in the Museum's narratives, and can, at times, sit in opposition to their universalism. While this unassailable voice can be heard in several of the digital deployments examined in this thesis, it is particularly evident in the COL, the Museum's digital catalogue. This catalogue is the primary source for scholarly and curatorial information about the collection, and represents the Museum taking the bold (and, at the time, unprecedented step) of making its collection records open to the public with very little held back. Therefore, when silences are evident in

these records, as is shown in the cases of the Benin objects, or when the terminologies used are no longer acceptable for the subjects they describe, it can be difficult not to read the records as an example of an institution which faces the world with some intransigence. However, this argument only goes part of the way. It is true that digital deployment of the COL boosts the archaic terminologies, omissions and silences which may be present in the Museum's records. And it is also true that this makes the Museum more vulnerable to the very claims that its universalism attempts to thwart (Coombes & Leahy 2016). However, it is necessary to step back and look at the Museum's institutional setting more broadly, and understand the digital offerings in this context. The Museum documentation staff operate in an environment where the Museum has been systematically underfunded, cataloguing activities have had to be undertaken by volunteers, curatorial activity has become more centralised, and the COL has, for the most part, been neglected as a resource (Griffiths interview). Coupled with the scope of the COL, which, at the time of writing was over eight million records (Szrajber interview) it is perhaps unsurprising that the Museum's capacity to consider identifying, revising and potentially correcting records is limited. At the same time, the Museum also has a long history of good record keeping, an adherence to curatorial practices and independence and a traditionally devolved internal structure. Translated into digital asset management, this meant having to unify previously disparate departments and responsibilities, which has not always been successful (Szrajber interview). Added to the general difficulties associated with digital preservation and persistence on the web, and it is hardly surprising that some links have (literally) been broken.

Chapter 2 laid out the theoretical basis for the research, and showed how it is theoretically plausible that traces of meaning and significance are embedded in museum objects, their records and networks as a result of the digitisation process. These imprints can either be used by museums to harness the relational and reflexive turn in museum studies and revise the ways in which they present the objects in their collections. If left unexamined, however, they risk entrenching and deepening already existing imbalances and problematic identities.

Chapters 3 and 4 provided the historical evidence to prove *Chapter 2's* theoretical position. These chapters trace the history of the Museum and the chronology of their digitisation respectively. Both chapters provided the evidence needed to draw connective and causal lines between the Museum's founding principles and the way it imagined its audience, both then and now, and the museological identity which it presents to the world. Using the Museum's internal documentation, and interviews with staff it also addresses how the

Museum imagines and is planning for this audience in the future, and what the implications of this might be for their digitisation work. These lines reveal a continuity in the Museum's conceptualisation of its role and responsibility towards its audiences in the past and present, and reveal how these framings affected the way the museum decided to digitise their catalogues and records and make them available online. It also demonstrates a connection between the way the Museum sees its audience currently and their planning and objectives for the audiences they imagine will be coming to the online museum in the future. *Chapter 4* concludes with a critique of one of these digital projects, which was developed in partnership with Google, and which has resulted in the presentation of digital objects and resources from the Museum's collection which, I argue, are problematic for technical and informational reasons. This reveals how technology may broaden access to museum culture, but that technological approaches alone are not sufficient to carry out the job of reframing and redressing problematic or imbalanced narratives embedded in museum collections.

The next three chapters shifted the focus away from the museum to broader theoretical and practical examinations of the potential (and restrictions) offered by digital technology for the ways in which knowledge and information infrastructures are managed in museums. *Chapter 5* considered the epistemological changes which occur when an object is digitised. It showed the museological processes of selection, appraisal and documentation, which are repeated during digitisation, may add extra (not always immediately-evident) information to an object as it passes through the various stages of the digitisation process. I showed how, in some museums, the opportunity to apply of added layers of meaning has been seized upon as a mechanism for experimenting with technology both as a way of uncovering the subjectivity inherent in museum objects in a curatorial context, and rebalancing these subjectivities publicly. However, I also show that technology itself cannot change the way museums represent communities or histories. I argue that in order to fully exploit the potential of digital objects, museums, including the BM, need to reconsider their knowledge infrastructures in order to identify and manage the biases which are encoded (literally and figuratively) in these structures.

Chapter 6 delved deeper into the question of knowledge infrastructures and examined the epistemological changes which take place when records are digitised. Unlike in libraries or archives, where the book or record is both the object of study and the source of information, museum objects often have to be synthesised, and the knowledge extracted from them. This is given material form in the associated object record. Using the conceptual framework of the contact zone, I examined the way the BM links between records to develop

knowledge infrastructures within the museum and with external sources, and compared these with those of the Powerhouse Museum in Sydney. I concluded that the overall lack of links in the BM results in an under-exploitation of the information in their records, which is scattered in self-contained siloes across their site. At the Powerhouse, in comparison, user-generated tagging has created dynamic links between objects, and, crucially, made objects which are kept in the museum's stores more visible to online visitors. By not building an information architecture which facilitates internal links between knowledge objects within the Museum's collections, or with other sources external to the collection, the Museum fails to fully extend the contact zone. This absence of connections also restricts the users' ability to create their own routes into and around the collections.

Chapter 7 extended the notion of the contact zone in order to explore the Museum's network of other online entities. In the absence of the traditional markers of national identity, national museums online must find other ways of signalling their national status, and one way of achieving this is through building a network around themselves. This network provides a means of creating a 'nationalised' segment on the web. In the case of the Museum, the intention was to show that their universal identity was bolstered by the web's globalised character. However, the research revealed that the BM's network is, in fact, resolutely British in nature, and that the nation is located in the network. The chapter drew parallels between the earlier version of the Museum presented in Chapter 3 and the ways in which it saw itself serving different publics, and the contemporary Museum's network of connections and perceived publics. The chapter concluded that there is a disconnect between the publics the Museum purports to reflect and represent, and the one which is evident in its online networks.

Chapter 8 extended this conceptualisation of the Museum as a networked assemblage of units, but rather than using this framing to look at the Museum's external network, it returned to looking at the Museum itself. Drawing on the work of Susan Leigh Star and critical infrastructure studies, it posited the idea that the British Museum might be considered as a boundary object or boundary infrastructure. By adopting this infrastructural concept, the Museum would be able to incorporate (rather than work to avoid) the complexity and heterogeneity which is part of its essential character. The chapter extended the discussion into the tension between standardisation and complexity in scientific work which characterises the knowledge-making process in museums. Using this tension, I argue that digital technology, and the fluidity and plasticity associated with it, is one way for museums to reconsider their practice, and that by becoming more complex, they are able to maintain their

unique institutional characters, while still managing to make sense of their complex collections.

9.1 From Digitisation Paradox to Immanent Critique

Each chapter shed light on one aspect of digitisation at the British Museum, the critical case in this study; in combination they can explain the interplay between digitisation and identity in museums more broadly. This analytical narrative reveals *three significant conclusions* for the development of digitisation practice in museums:

First is the idea that sense-making infrastructure is important and needs to be considered as part of digitisation planning. In museums, these infrastructures have traditionally been in the form of records, catalogues and objects, and established conventions and practices govern their creation and use. They are the knowledge repositories traditionally used by museums to give intangible knowledge a material form. Digitisation can have a transformative effect on these infrastructures, and the process of digitisation leaves traces on them. Code, metadata, hyperlinks, digital networks and multi-faceted digital objects all have the potential to be exploited by museums as mechanisms which can be used to retell and reframe narratives, but this reframing requires careful consideration of the existing knowledge infrastructures which underlie them. Without this consideration, there is a risk that the digital mechanisms simply act as microphones to rebroadcast the narratives which previously existed.

The second conclusion grows out of the first, and it is that technology cannot change a narrative. Throughout the thesis I refer to the concept of the digital and technological imperative, and highlight the ambiguity of digitisation in the museum context. Museum technology and museum computing have advanced significantly in the last thirty years, and while digital technology provides museums with significant opportunities to reach new audiences, uncover new narratives and provide new opportunities for research and exploration, there is also the risk of assuming that technology will provide the solutions for the challenges faced by museums in the increasingly networked future. In my examination of the way the BM discusses digital technology, I found that while it has come to embrace what Parry (2013) refers to as 'digital normativity' there is still a lack of clarity about what the museum's digital future might actually look like, or how digitisation might affect meaning in the Museum. Public statements which allude to growing the Museum's audience into the billions, or becoming the Enlightenment institution it has always aspired to be (Michaels, 2015) reveal aspiration, but little critical engagement with the epistemological challenges which this thesis has shown that digitisation can bring.

The third conclusion is closely related to the second, and considers the history of the institution itself. If we accept that digitisation is not a neutral process, and that traces and evidence of formative decisions can be found in the digital collections, then it is necessary to accept that the culture of the institution is a factor in digitisation. The BM's history has influenced the way it sees the audiences and publics it served in the past, at present, and in the future. This imagined community and the BM's position in relation to it, is woven in to the way they have digitised their collections. From the unassailable voice which is found in the text of the records, to the subjective nature of the repository code, which directs a visitor's passage through the collection, it is possible to create an image of the digital British Museum which is no less patrician than the original.

The thesis also identifies three tensions which are central to museum digitisation. Firstly, this thesis has considered the tension between fixity and fluidity. This tension can be seen in the discussions in *Chapters 2 and 5* which consider the shifting meanings in museum objects and their digital surrogates. Neither the analogue nor the digital versions can be said to embody single, unequivocal meanings or significances. While museum studies urges an engagement with this fluidity (Bennett, T. 1995; Pearce (ed) 2003; Macdonald, 2009; Cameron, 2010), the representation of multiple meanings in a digital museum is a challenge. It threatens the discourses of authority, certainty and fixity which are prevalent in many museums, particularly those of national identity, which may rely on more binary definitions of 'us' and 'them' in order to demarcate their publics. This tension is also evident in the discussions in *Chapter 8* which considers an alternative framing for museums as complex, adaptive systems, built on the model of boundary infrastructures (Cameron, 2015; Star, 1999). This model depends on museums relinquishing some of the certainty which shapes their practices and identities, in order to respond to the societal challenges they face. However, as *Chapters 3 and 4* which discuss the history of the BM and its digitisation work reveal, institutional identity and history are deeply ingrained into fixed museological practice, which have developed over, in some cases, hundreds of years of tradition. Museums are also complex bureaucracies, and the use of technology as a mechanism for adaptive flexibility in these contexts, as the history of the digitisation at the BM demonstrated, is not always easy or quickly embraced.

The second tension, that between specificity and universalism, can be seen as closely related to the first. Objects and institutions whose identities and meanings are built on fluid foundations are open to being claimed or appropriated by a range of publics and audiences which may differ from those which were originally intended. The Museum's project with the

Google Cultural Institute was examined as an example of a trend towards creating digital resources which do not have this flexibility, and can only be accessed, re-aggregated and re-used within the confines of the Google platform. This is a worrying direction, as it proscribes adaptation and truly universal access to the materials. Universality on the web is not only a question of reach, it is also a question of sanction – access to digital material and the possibility and freedom to reuse that material are often seen as interchangeable (Lessig, 2001; Bowrye & Rimmer, 2002). The current model that museum has adopted in the collaboration with Google is a digital ‘look but don’t touch’ approach which is not always compatible with its transformative ambitions.

The influence of technology on perceptions of ownership of cultural heritage informs the final tension identified. Throughout this thesis I have highlighted points at which it is evident in the digitisations in question that while technology offers users and museums alternative routes in to their collections, and ways of building hybrid digital objects which may contain multiple forms of information, it cannot change data or messages which have been recorded in the object records. As the example of the Possum skin cloak in the Powerhouse Museum in *Chapter 6* revealed, while museum objects may contain other meanings for different viewers, these meanings are latent, and cannot be known unless curators and source communities are actively encouraged to make them visible. Likewise, Mia Ridge and Seb Chan’s experience of trying to curate museum datasets at the Cooper-Hewitt design museum (see *Chapter 8*) demonstrate that unless data has been created and curated in a way that ensures its future usability, it cannot fulfil the expectations of researchers of museum professionals who wish to exploit it. These considerations are technology-independent; they do not rely on sophisticated technological processes or schemas to create them, although they may be used in complex systems. In museums, the desire for technological and digital mechanisms which have a transformative potential must be balanced with informed, reasonable expectations and an understanding of the limits of technology. Edmunsun (2015) has argued that technology still has the potential to ‘change the museum’s ‘way of being’ but that this change has not yet happened (para 49). I would argue that this change will not happen through technology alone, and that, if museums’ ways of being are going to change, and for the better, this change will need to be systemic, and include a re-visioning of the way museums consider knowledge and their recounting of it, before any technological change is possible.

9.2 Identities and Infrastructure: Future Directions for Research

This thesis has examined the ways in which meanings and identities shift during and as a result of digitisation. However, in order to understand the changes that take place in large museums as they digitise their collections, there is still a great deal of research to be done in this area.

As Parry (2013) and Macdonald (2015) have pointed out, museum theory and museum computing are subjects which are becoming increasingly theorised while the relationships between practice and theory are growing in sophistication. As these developments take place, there is an opportunity for more research which examines the juncture between the two, particularly in the digital space of both digitised collections and those which have been born digital. In this section I suggest that there are three areas in which I see it being possible to extend this research in a way that adds to the increasing resonance of digital heritage and museum research. The first is in the area of identity, the second is born digital and converged collections and the third is critical infrastructure.

Firstly, this research was concerned with one particular museum, with a specific, and distinct history and national context. Before it is possible to make any categorical statements about how national identity is manifested in online museums, it will be important to develop a much deeper understanding of how other museums consider the issue. Further research is needed which focusses on other national museums, with different histories, and which are located in a range of different political and social contexts. In particular those which negotiate collective and transnational identities, such as museums of European culture, migration museums and museums which represent culture and ethnography. How these museums define their publics and how these identities manifest on the web, with a focus on digital methodologies would help to develop a broader understanding of these challenges. The EUNAMUS project, which ran from 2010 -2013 examined the role and contribution made by national museums in Europe and concluded that as well as collecting, preserving and displaying a nation's most cherished objects, they also:

‘...balance the stability of the old with the disruption of the new... [and] provide an institutionalized arena for negotiating new understandings of the nature of political community.’⁹⁴

While this research highlighted the role and necessity for national museums and museums of European identity, only one of the reports published was concerned with the web and how museums link identities and communities online (*Crossing Borders: Connecting European*

⁹⁴ EUNAMAS project home page
<<https://web.archive.org/web/20160926175524/http://www.ep.liu.se/eunamus/>>.

Identities in Museums and Online, Knell et al, 2012). There is scope for research that builds on this work from a digital humanities perspective, and which focusses on digital technology as a factor in knowledge and meaning construction in these types of institutions, and not only as a platform for dissemination.

Secondly, and on a related theme, there is also potential for research which examines how born-digital and converged repositories manage the identities of the different national collections contained in their repositories. Robinson (2016) has examined collections created out of the convergence of museums, libraries and archives and in order to understand the impacts on the capacity of curatorial and collections staff to carry out interpretive museological practices, but this research has largely focussed on material-world collections. Research which examines how museum professionals manage curatorial work within digital ecosystems (which may be distributed across several institutions and countries) and how this technological context affects the way museological meanings are developed, negotiated and displayed, would deepen our understanding of an increasingly common model for digital heritage.

Research which examines born-digital and converged collections also presents an opportunity for a deeper theoretical engagement with the question of how collections are defined. In converged repositories objects with different physical locations may be brought together in new constellations which exist only in the digital sphere. Some may only exist as assemblages of objects for short periods of time, others may endure. Different objects may be included, retained or excluded, and this may change over time. A digital collection may not have a single analogue progenitor, and may never exist in the material world. The intangible nature of these digital collections forces us to reconsider our understandings of museological practices such as collecting, and ask whether collections need to be temporally enduring to be considered collections, and whether the items in a collection need to stay fixed, if the collection is to endure.

Finally, the third area for possible research focusses on extending the critical infrastructure aspect of this thesis. It would consider how knowledge infrastructures influence and impact the ways in which museums present digital knowledge. Beginning with an investigation into the history of how knowledge was produced in museum collections through socially constructed mechanisms like classificatory standards, it would be possible to trace a chronology of how significance was determined for museum objects (Borgman, 2010) and how standards emerged and developed into rules for museum practice, thereby contributing to the study of the role of museums in the history of knowledge (Edwards, et al. 2013).

Building on this the work presented in this thesis, a closer examination of how knowledge has been produced, organised and subsequently transformed by digitization in museums may be undertaken by digging deeper into the standards which underpin museum documentation infrastructure. In this way the research will contribute to understanding the history of knowledge by identifying and examining the mechanics of the stabilizing relationship (Marty, 2007) between classification, documentation and knowledge development in museums. Examining systems such as cataloguing procedures and classificatory categories may reveal how they influenced the development of knowledge management practice, while at the same time looking forward, to the questions arising as museums consider how to build sustainable knowledge structures in the face of a sometimes unstable digitised and networked future.

Museum catalogues and databases are not only the raw materials of historical research - they are artefacts of periods when scientific knowledge emerged out of collections of materials (Kavanagh, 1990). Museum anthropology has developed a substantial body of research which examines how existing documentation affects representation in museums (See Geismar & Mohns 2011; Boast 2011 and Turner 2015) but the history of museum cataloguing is relatively under-examined outside the professional field of curatorial training. By looking at the history of museum documentation standards, it would be possible to explore how these artefacts were produced and how they shaped knowledge creation and organisation infrastructures in museums. These infrastructures include historical decisions about how information was recorded in ledgers and contemporary decisions about the digital architecture and code of databases.

If, as mentioned before, museum collections give spatial form to thought and knowledge (Parry, 2007), then it is possible to consider collections, both digital and material, as components of interconnected networks of different information types which are further enriched by information gathering processes such as cataloguing and conservation as well as the extrinsic knowledge of museum scientists or curators. Information tools like card indexes and registers captured and organised this knowledge, and represent the value of the museum. They were also often created according to the personal rationale of the collector-curator (Ibid: p.80). With the advent of automated record management and standardised databases, order was brought to these individualised and sometimes chaotic regimes of knowledge organisation. The adoption of relational databases enabled new connections and knowledge networks to be created between objects and their locations, records, narratives and databases (Beltrame, 2016).

But underpinning both the curatorial rationale of the record and the relational design of the database is the infrastructure of knowledge organisation. As discussed in Chapter 8, this infrastructure contains a structural paradox: for records to create order, they need to be comprehensible and interoperable. This requires information to be standardised. However, standardisation necessitates the sacrifice of some of the specificity of the record, even though it is this detail (a product of the personalised, occasionally idiosyncratic documentation practices of individual collectors and curators) which makes connections with other objects possible. Engaging with this paradox and understanding its implications for the emergence of practical knowledge in the museum domain is potentially a fruitful area for future research. The nature of the question also invites a multidisciplinary approach. As such, I propose combining archival research and digital methods in order to trace the history of standardisation in museum documentation. Firstly through archival examinations of records, ledgers and registers will be consulted as sources in order to establish how museums developed rules for knowledge management using their (often institution-specific) cataloguing practices to create order out of the chaos of collections. The digital information architecture in museums, and specifically the code of digitised databases would also be useful sites for infrastructural examinations. This will require an engagement with critical code studies, in order to read the code of the databases as textual data (Marino, 2006) and provide insight into the way museums consider information infrastructure. Using a combination of the critical infrastructure work detailed in *Chapter 8* and based on the arguments presented by Bowker and Star (1999) which hold that all classificatory systems are constructed and unnatural, yet both invisible and powerful, this research would look at the infrastructures underlying digital heritage. This could include metadata schema, web code, and repository architecture, and would add to the development of an argument that the computational aspects of digital heritage are as significant for the meanings and messages conveyed by the objects themselves. This will also make it possible to compare the way knowledge is organised in the registers and databases, and to look for intellectual continuity or disruption between the original records and their digital surrogates.

9.3 Concluding Remarks

The configuration of significant theoretical overlaps in contemporary museum studies and museum computing have had a significant impact on the ways in which museums are having to reconsider their roles in society, and where their audiences are. This is true of many museums, from universal institutions such as the British Museum, to smaller ones, such as the

Powerhouse. While the British Museum is an iconic exemplar, and an innovator it is also an institution which struggles, at times, under the weight of its own history, size and ambitions. By showing how the museum has made use of digital technology in the dissemination of objects and records, and in building an online network, this research highlights the fact that negotiation of identity in online museum collections is complex and requires critical consideration, rather than simple replication of existing content and information. This critical consideration mirrors many museological practices of selection, inclusion and omission, and ideally, would be carried out by curators working with technologists to develop digital collections which are informationally rich enough to be useful, and technologically flexible enough to take advantage of the web and its possibilities.

The scholarship around museum studies, museum computing and the digital humanities continue to grow in significance and resonance, and they are at least being matched, if not outstripped, by the advances and developments in digital technology. Matching the potential of the tools with the critical engagement of scholarship will be essential if museums wish to harness technology to continue their humanistic objectives. At the same time, it is essential that technologists who are building new repositories, ecosystems and tools which are designed to exploit digitised museum content, have an understanding of the institutions within which they are working, in order to understand the richness and complexity of their knowledge management systems. It is unlikely that a digital tool will ever be able to replicate the tangible, material nature of a museum object, in the same way that a museum will struggle to give a viewer the many voices and narratives contained within an object displayed in a gallery. However, continuing research which brings these two objectives together in order to make museums more inclusive, and digital collections more tangible is a project which is well within reach.

APPENDIX A

Table 1.1

Websites in the British Museum's Network, with deeplink count and description. Letters in brackets indicate type of organisations or institutions: A – academic or educational, C- commercial, F - funders G - governmental or public body, H - cultural heritage or GLAM, S – statutory, SM – social media , T- trust or non-profit.

No.	Site Name/ Description
Deep links	
URL	
1897	www.ox.ac.uk
1387	www.twitter.com
1099	www.artscouncil.org.uk
797	www.gov.uk
523	www.twitter.com/share
496	www.legislation.gov.uk
446	www.get.adobe.com/flashplayer
316	www.nationalarchives.gov.uk
296	www.britishmuseum.org
276	www.finds.org.uk
208	www.hlf.org.uk
189	www.iwm.org.uk
115	www.britishcouncil.org
64	www.tfl.gov.uk
58	www.ucas.com
	Oxford University (A)
	Twitter homepage (SM)
	Arts Council England (F)
	UK Government portal (G)
	Twitter tweet upload page (SM)
	Database of UK statute law (G)
	Adobe Flash download (C)
	UK National Archives (H)
	The British Museum (H)
	Portable Antiquities Scheme (H)
	Heritage Lottery Fund (F)
	Imperial War Museum (H)
	British Council (G)
	Transport for London (G)
	University & College Admissions Service (T)

39	www.citizensadvice.org.uk	Citizens Advice (T)
38	www.bl.uk	British Library (H)
37	www.ashmolean.org	Ashmolean Museum (H)
32	www.npg.org.uk	National Portrait Gallery (H)
27	www.nationalrail.co.uk	National Rail (S)
25	www.visitlondon.com	Visit London (G)
23	www.aboutcookies.org	Private site (C)
22	www.museumoflondon.org.uk	Museum of London (H)
21	www.ico.org.uk	UK Information Commissioner's Office (G)
20	www.hmrc.gov.uk	Her Majesty's Revenue and Customs (G)
19	www.artfund.org	Art Fund (F)
19	www.nationalgalleries.org	National Galleries Scotland (H)
19	www.nationalgallery.org	National Gallery in London (H)
19	www.britishmuseumshoponline.org	British Museum shop (T)
18	www.education.ox.ac.uk	Department of Education, Oxford University (A)
17	www.environmentagency.gov.uk	UK Environment Agency (G)
17	www.vam.ac.uk	Victoria and Albert Museum (H)
16	www.sustrans.org.uk	Sustrans Charity (T)
16	www.garfieldweston.org	Garfield Weston Foundation (T)

16	www.defra.gov.uk	Department for Environment, Food & Rural Affairs (G)
15	www.hepworthwakefield.org	Hepworth Wakefield Museum (H)
15	www.wolfson.org.uk	Wolfson Foundation (T)
15	www.tate.org.uk	Tate Galleries (H)
15	www.ahrc.ac.uk	Arts & Humanities Research Council (F)
14	www.tfl.gov.uk/roadusers/congestionchargeing	Transport for London (G)
14	www.english-heritage.org.uk	English Heritage (T)
13	www.history.ox.ac.uk	Department of History, Oxford University (A)
13	www.equalityhumanrights.com	Equality & Human Rights Commission (G)
12	www.nationalexpress.com	National Express coach service (C)
12	www.ukcisa.org.uk	UK Council for International Student Affairs (T)
12	www.adviceguide.org.uk	Citizens Advice portal (T)
12	www.nhm.ac.uk	Natural History Museum (H)
11	www.1914.org	World War I centenary portal (H)
10	www.heathrowairport.com	Heathrow Airport (C)
10	www.museum.manchester.ac.uk	Manchester Museum (H)
10	www.esmeefairbairn.org.uk	Esmée Fairbairn Foundation (T)
10	www.dwp.gov.uk	Department of Work and Pensions (G)

10	www.waddesdon.org.uk	Waddesdon Rothschild Collections (H)
9	www.fitzmuseum.cam.ac.uk	Fitzwilliam Museum (H)
9	www.uksport.gov.uk	UK Sport (G)
9	www.nms.ac.uk	National Museums Scotland (H)
8	www.sciencemuseum.org.uk	Science Museum (H)
8	www.londoneye.com	The London Eye (C)
7	www.culture.gov.uk	Department for Culture, Media and Sport (G)
7	www.bbc.co.uk	British Broadcasting Corporation (S)
7	www.creativescotland.com	Creative Scotland (G)
7	www.museumsassociation.org	Museum Association (S)
7	www.hrp.org.uk	Historic Royal Palaces (T)
7	www.lgo.org.uk	Local Government and Social Care Ombudsman (T)
6	www.cwgc.org	Commonwealth War Graves Commission (G)
6	www.do-it.org.uk	Do-it Trust (T)
6	www.traveline.info	Traveline travel service (C)
6	www.literacytrust.org.uk	National Literacy Trust (T)
6	www.gatwickairport.com	Gatwick airport (C)
6	www.britishmuseum.org/research	British Museum Research (H)
6	www.bis.gov.uk	Department for Business Innovation and Skills (G)

5	www.esrc.ac.uk	Economic and Social Research Council (F)
5	www.educationuk.org	British Council (G)
5	www.liverpoolwaterfront.org	Liverpool Waterfront (C)
5	www.data.gov.uk	UK Government Data (G)
4	www.glasgowlife.org.uk	GlasgowLife information service (C)
4	www.jisc.ac.uk	JISC (T)
4	www.firstgreatwestern.co.uk	First Great Western railways (C)
4	www.arnolfini.org.uk	Arnolfini Contemporary Arts Centre (H)
4	www.artswales.org.uk	Arts Council of Wales (G)
4	www.harrismuseum.org.uk	Harris Museum and Art Gallery (H)
3	www.gatewaysfww.org.uk	Gateways to the First World War portal (A)
3	www.a2a.org.uk	The National Archives sub-site (H)
3	www.intarch.ac.uk	Internet Archaeology journal (A)
3	www.dailyinfo.co.uk	Daily Information Guide to Oxford (C)
3	www.admin.ox.ac.uk	Oxford University Administration (A)
3	www.epsrc.ac.uk	Engineering & Physical Science Research Council (F)

Appendix B - Interviews

Interview Transcript 1

Tanya Szrajber (Head of Documentation) and Julia Stribblehill (Web Liaison Documentation Officer), British Museum

Interviewers: Rebecca Kahn (RK) and Sebastian Felten (SF)

Interviewees: Tanya Szrajber (TS) and Julia Stribblehill (JS)

RK: So, to begin, could you tell us a bit about the database, and how you see it fitting into the day-to-day work at the Museum?

TS: For me, the collection database should become the legal document, the catalogue of the British Museum collection. To me, it is the fundamental recording of what we have, to which you can add, and from which you can pull out information, make links and so on.

The emphasis for me should be on getting as good a quality of information in as you can because the bigger it gets, the harder it is to keep up. If people do research on some of the objects or aspects of the collection, there should be ultimately a mechanism for getting it back into the basic record. This isn't always happening. Just because our data is use in other research projects and so is, in a sense, available elsewhere, doesn't, to me, negate the fact that it should go back in. Because our is refreshed almost weekly and goes to the public, I think we should have the most up-to-date data, if you like, for public access. And, as I said, we don't restrict it, we just let everything out, all the records good and bad, but obviously not security fields. [01:23]

So that's one side. The other side, which is interesting to me, is terminology. Now that goes with why we have good records – it is due, to a large extent, to the terminologies. We have probably the most comprehensive biographical database in the museum ('biographical authority' we call it) and again, a lot of work needs to be done. But we don't restrict it, I think the Getty is more restricted to European, ours isn't – it is worldwide, it has famous people but also a lot of less famous, but this doesn't get linked. It links to the records, but it doesn't get linked to say, some other aspect which might be interesting, like other contextual processes. And there was a very good paper at CIDOC by Richard Light about making these links. To me, once the data is out there, you can do wonders with it. [02:38]

SF: When you say 'interesting to me' does that imply that a lot of people don't care as much about the quality of the records? 02:54

TS: It's not so much care. I think to some extent everyone wants them, but because there isn't... Look, you put on an exhibition, or you do fundraising, or you publish a book, there's evidence of it. If you work on this, which is like housekeeping, it takes a lot of determination from a very busy schedule, to devote time to this, so it tends not to be the priority [03:22] If, in general, people were told, 'You've done a fantastic job, it's something to be really proud of, that you've edited a thousand records' or whatever and so if it doesn't happen that way, and people need rewards and need to move ahead in their careers, then I think we should have a kind of system where for projects, it becomes part of it. There was only one instance when it was really built in and it worked, and that was the online research catalogues and I was asked to sign off on the records. [03:56]

And because I had to sign them off, they had to be good enough to count as a catalogue record in a book or research catalogue. And that worked, and sometimes I could comment, not on the academic content, but on discrepancies or missing dates or whatever, but that kind of principle could be applied more widely.

SF: So, the reluctance is from the side of the curatorial staff?

TS: It's not reluctance. They've actually got many more duties now than they used to, and there aren't as many of them. [04:32]

So, I think it's really a time issue. People may have different views on this - some people think it's because they're not aware of the importance, but they are, because they're highly skilled people. It is all going to the public world-wide, so I'd have thought that was enough incentive. But also, I personally think cataloguing as a skill is obvious, but it is not, it is much more meticulous. It is not like doing research papers, you have to cover all aspects of the object. [05:14]

So, I think raising an awareness of the importance of the skill of cataloguing as part of curatorial duty would help, and as I said, tying it into other projects - in other words, you have to have good records to go with whatever else it is that you're doing. [05:35]

And then it becomes second nature.

So, I can show you an example [*turns to computer terminal, searches Collection Online*] I'm trying to find the word 'Chinese' because I think what we've got here is excellent as a basis. People have extrapolated statistics, and you can do all sorts of stuff with the data once it is in, but I think just saying that it's there for other people to do research, such as in ResearchSpace* or other places - yes, but it's got to get back in. So, we've got already 3700 just Chinese results. Some have very little about them, but the fact that we can more or less cover

so many different cultures is fantastic. And yes, I am very hung up on good quality data, because you've got to be, and you've got to be geeky about it.

SF: *We're really interested in the longer history of this project - could we maybe move back in time?*

TS: Sure, I have a slide about the project history, maybe I'm not typical of people in my field - my staff and myself we all have an academic background, we didn't study this.

SF: *When did you join the BM?*

TS: I joined around must be in the 1980s... Basically I have degrees in philosophy and art history, and when I started here it was because of interest in the collection, which I think everyone does in my field of documentation, otherwise we wouldn't bother. But you couldn't study it and then it was a very unknown field. So, when I started here we were working with information from the departments but not with the curators. In fact, there was a complete divide, really. And so, we were like inputters. And we were quite pioneering. We were setting standards and doing new work, it was really quite exciting. [09:02]

And so, what happened, and again this is a personal view, the good thing was, well, there were two good decisions we made here. One (and I was part of it) we decided very early on not to adopt foreign, outside terminologies. In other words, all our terminologies are internal. [09:27]

Now the good side of that is that the curators, who, as the systems got more sophisticated, got more involved, first to look and then to enter data directly themselves. And that's a critical part of the process. And the terminologies came from these very old listings that would come from the staff and that we would look up. They were old fashioned, maybe spelled places differently because our resources were the registers, from the late 18th and early 19th centuries [10:08]

SF: *But you were already working on a database?*

TS: Well when I started we were doing the forms, but when we worked here to create the records we used paper documentation and objects, and the paper ones tended to be the old ones.

RK: *And you were inputting that information?*

TS: Initially into the form and then soon after onto a database [10:29]

RK: *And that was a database that served internal operations?*

TS: Oh, totally internal. Totally. And because we were doing it piecemeal, until you get to a critical point, searches aren't that useful because you're not getting a decent search result. There is a critical point where, say, if you take a holistic approach and do all the Chinese ceramics, then the search becomes meaningful for a researcher or anyone else. But what I'm saying about the terminologies is because they were gleaned from these very strange, sometimes up-to-date, sometimes not sources; it took years and years to refine them. So, we started with this really strange list, and as I remember, we sat together as a little group of documentation people and pulled them together but there was a lot of curatorial advice and input over the years. [11:26]

And then we made hierarchies, and that's a terrific feeling because what happened is that I think the users felt comfortable. it wasn't imposed on them and the users can add to them so curators and anyone else who inputs can create new terms.

SF: *And that was important in order to get the curators interested in the project?*

TS: Crucial. And I think the success of our particular project may be to do with the fact that curators not only have that active part in using and contributing to it, but I think because it is comprehensive it is actually quite useful to them. But I've always had, again, a less technical approach. [12:15]

Now it may be that everyone is the same, but I feel the curatorial side very much of it, their pressures, their interests, their perhaps lack of abilities with some of the very technical bits, although some of them are much more technical than I am. I do my own cataloguing as well. I do French prints and medals of a certain type, and I do those under the auspices the departments. By doing it I can understand the issues - to me that's very important, so my approach has always been less, 'let's stick to the strict documentation rules' and risk putting things in the wrong place, and more to do with an understanding of the complexity and the similarities across the collection and so on. So, when I pick staff, I don't pick people with documentation qualifications, and I think that probably makes me unusual. I think if you don't have an interest or a general knowledge, you've got to know what the word means, and I think there is a slight tendency in some places to pick people who stick to the rules. But then I think it can lead to a 'them and us' situation, so I think the acceptance of the system and the way we deal with things is partly due to the fact that I really resent the old distinctions between curators and cataloguers. But I think one has to appreciate, at least, what is involved in cataloguing. [14:49]

I'm not talking about collections management, we're talking about cataloguing, basic information for research, knowledge of the collection.

RK: You mentioned that you were a small group of people who were beginning to do the work on the database. When you saw this thing that you were entering data into, what surprised you about it?

TS: Well, it wasn't a thing. It was a form. That's how far we've come, from a form you filled in and sent to be processed.

SF: Did you send it outside the museum?

TS: Well no, we were lucky, we had technical support. But there were actually about five forms for different parts of the record, and that was kind of scary because you don't get a sense of the record as a whole or a whole process. So, bits of information were on one form, which was processed, and then you filled in another bit, with other information. So, the next system was better, because we could access it directly. But the best system was the MAGUS, where you had immediate access, and could go back in and correct any mistakes - it was a holistic approach. Plus, the curators accessed it. To me it was very important to get the curators on board. To me, it's a personal view - I do feel that it helps to approach the curators on that basis. I think people who are too rigid about databases can have an off-putting effect. So, to get them on board and encourage them helped. And not just curators, I also worked very closely with the scientists for the terminology for the materials, which can look a bit strange, bird feathers and all sorts, but the scientists checked it, and although it is in everyday language, structurally it is correct. That helped. [17:22]

Conservation data is in there as well, so I think the general involvement as part of the process is important.

SF: But if you say that the curators weren't that involved initially, who was most motivated to carry this on, and who was trying to make this a major part of the museum's activity?

TS: Well, originally, it wasn't that they weren't interested, it was that they physically didn't have access. And it was because there was a national audit office request - we are a national museum, and there is an accountability issue, so the beginning was very much that we had to know what was in our collection, there was a legal requirement. [18:11]

So we had to do it. That was before my time, the project started in 1976, I came in the late 1980s, but the National Audit Office request is in the 1980s somewhere. Now, in some museums, like the V&A, they started with what they call full-field inventory, where they had to

do the whole thing again, but I think what we tried to do was put more than just the most basic information in, because it made sense, you could still build on it.

But I think involving the curatorial departments and the scientists - it went bit by bit and so originally even when we worked with them, we were responsible for the records. Then there came a point for new acquisitions when it became their responsibility and they did it entirely by themselves. So that helped facilitate the switch from paper to digital. And some people, I don't think anyone actually resented it. But it's much quicker to write a line in a register than to fill something out, but I don't think I've ever come across resentment. I think what I've come across increasingly is lack of time. And that needs to be addressed, because if you want to maintain good standards, I don't think just having digital research projects is enough. There's also disparity between what's happening on the research strategy - and us. I'm not sure why we don't have more connection and then the Research Space is a little bit broken up, so you can't research just for the sake of it. You have to research in terms of how it ties back.

RK: When you started with MAGUS and then the later iterations of it, what was the strategic intention behind these projects, as they were being developed.

TS: The original one was the idea of the inventory and knowing what we've got, accountability and all that. That never changed, and it's not changing now, we're under pressure again to finish.

SF: But if I understand correctly, some departments were starting to digitise before there was external pressure?

TS: Yes, because every museum does it. That's why the ledgers go back to the early days.

SF: And using databases?

TS: I think the use of databases in museums coincided, must be in the late 1970s early 1980s pretty much everywhere in England.

SF: So, the external pressure to build up the inventory, was it something that someone in the museum used to put digitisation on the agenda internally?

TS: I know the idea of accountability was always there, from early days. Using a computer makes it much easier to search across categories. We used to say, 'Once it's on the database, it doesn't matter which department it is in, we can still find everything that Hogarth made or gave or owned.' [21:52]

I think one of the arguments made was that if it is kept in compartmentalised orders, unless you know the order, how are you going to find anything? In one place it is by article, in another it is by material, in another it is by period, so if you want a search that goes across these, how are you going to do it manually? The whole beauty of computers is the ease of search across collections.

SF: Who needed convincing?

TS: I remember people being quite eager. There's always a few pioneers. And I know that what made a difference here: there was one Keeper, one very strong academic, who is now retired, and was my mentor. He really pushed and encouraged and set an example. And the more you have of that... It does ultimately depend on who you are and what your grade is and how influential you are, and having that strong approach is an amazing resource, and it always helps. [23:21]

And as I said, there is also that natural growth of a database, the bigger the more useful. And the easier. So, for example, what they did in Prints and Drawings and Coins and Medals, and the prehistory collections which are huge, millions of objects. When they started to create each artist or engraver's name they used existing files that they knew were in the records and set them up in advance, but names come up on prints that hadn't been recorded. So, I know from my own data, when you come across a name that already exists, you think, 'Yay, it's there already' and that makes it fun because you think, 'Oh look, they got to him as well,' and that happens all the time. And people aren't stupid, eventually everyone can see the benefits and plan an exhibition or a book or research or whatever. Another big impact were images. We didn't have them before, and once we got them, that was even better. Another milestone is going public.

RK: It sounds like there were internal aims that these tools and databases served across the institution - curatorial aims were being met, and accountability aims are being met. But the decision to take this content and make it publicly available online, I'm interested in what aims were met by doing that?

TS: Well, the guy who pioneered that, when we went live in 2007, [Julia enters]

TS: Julia arrived just after we went live

JS: Collection Online went live about 6 months before [26:05]

TS: Anthony Griffiths, who was Keeper of Prints and Drawings, as I recall, and this is just memory, had tried once before to get the material out. And not succeeded. It's a big decision. He very much believed in having it out there for the sake of external research - he was quite far thinking. And it was early days - this would have been earlier than 2007?

JS: We went live on October 17th, 2007.

TS: How many went out? I remember it wasn't widespread. When he first tried it wasn't 2007. And of course, we went live then but the preparation started before. So, I wonder if in 2003 or whenever he made his first attempt, and they didn't want to, and then he tried again, and then he was successful, because you've got to get the institution to agree to it. So that motivation to get it out... there was a bit of resentment, because people were worried that if we put our stuff out there, your research is available but of course you don't have to put all your research into the record.

SF: Were these curators who were concerned?

TS: Just one or two who were concerned about their research going out, but how many people do that anyway? Most people have their own files for their own work.

RK: So, it was curatorial hesitation, rather than managerial hesitation?

TS: Originally, it was management - the first time Anthony went to get permission, it was not curatorial, it was much higher up, I mean, it's a big project. But when he eventually got the permission, and led the working party, I think what helped was that on that working party we had people who were documentation, people who were technical web people. him and a couple of other curatorial staff. To me, the success story is the collaboration. If you do the 'them and us' it's a disaster and you'll never get them on board.

SF: Do you know what he did differently between the two attempts? [29:34]

TS: You need to check which museums when live when - I think this period, I know there was this funny mini competition - did the V&A copy us? Did we copy them? And anyway, some of them, like the Ashmolean only showed the best stuff, but this wholesale out-it-goes, warts-and-all, mistakes and everything approach, I think we were...

JS: I think we were fairly near the beginning of that. Certainly, the V&A were only publishing good records at the time.

SF: But COMPASS was a different approach, right?

JS: COMPASS was about five thousand records, which were specially written. They weren't from the collection database records. They were actually in the Content Management System, rather than in MERLIN or anything like that.

RK: So, COMPASS was created as a separate entity from what was, at the time, MERLIN? [30:52]

TS: Yes, and separate funding. People were paid to do the research and writing, and it was a different project. And Julia, luckily, got the links created, because at one point they weren't even linked to our records.

JS: Oh yes, they were completely separate beasts.

SF: But still within the museum? Or partly external?

JS: At the time they were within the museum [31:18]

But they were on the content management, rather than the collection management system. And they were designed far more as contextual, educational, external-facing records, information, rather than internal, which was then shared. So, there was a lot more about the context.

RK: And they didn't serve and internal purpose in the same way that the other records did?

TS: No, no, no.

JS: They were entirely outward facing.

TS: And now they're on Google Cultural Institute. And of course, we can't... you used to be able to access them. The joke was, and Julia and I have been going on about this for years: people going to the website thought, 'Oh, hello, that's our collection database,' but it wasn't the collection data. We had told the Head of Web many years ago, 'Can you do something about this, because it's hitting the wrong thing, so they get the five thousand but not the others.' [32.16]

But now I think they've completely removed them. To me it's a series of stages from object to paper to this and this. But collection online is the most important. The mother, the master, is our internal database, which is what Collection Online is. At the moment, we're trying to resurrect the Collection Online working party. But I think the idea is very much rather than having all these scattered things on the website relating to an object, you will be able to access them all in one place, ultimately, all together. But the Google version is not the same text, as the original version is it, Julia?

JS: It's based on the same text, but some of them have been revisited, but most of them haven't.

TS: And can we get to that from the BM website? No, it's the other way, isn't it?

JS: No, but we do have a link back to us. And to the Collection Online.

RK: The imagined audience for Collection Online - is there one?

JS: It's researchers. It's scholarly. It's used more widely than that, but the main bulk of our users are researchers, I think it's well more than 50%. Whether they're academics or students

or school kids, or private research - we have various categories and people have told us which ones they fall into, it's academic.

RK: And this would be a digital version of what would have been a printed catalogue of a particular collection, which one would consult if one wanted to know something about the objects in that collection?

JS: To an extent. But in the majority of cases we would never have gotten around to publishing a catalogue like that

TS: And also because of the variation in quality. I think the decision to 'publish and be damned' as it were, that was a big one because a long time ago they expected that there would be a furore, and they expected a lot more enquiries back to the departments saying, 'I want to see this now'. But two good surprises are that people didn't complain, and Julia deals with all the enquiries, and secondly having the image stops a lot of the handling - you no longer have to rummage looking for the right thing, which causes the collection to suffer. And having a good image means people don't have to come and visit. I mean, it depends on what you're doing, but the one thing is, as I said, you've come at a funny time. Chris Michaels, who runs the digital section here, I'm not sure if he yet... we'll have to see when we get to discussion, but I think he wants to take it very much to have it available to different audiences, but what we are very keen not to lose is the academic audience. [36:48]

SF: How would you manage that?

JS: We shall see...

TS: He did do at one point, and I found out from a colleague, he was experimenting with various young technical people, and they came up with the possibility that you can search make very broad categories from our stuff, and, search by those. But we had always agreed not to rewrite the records, We can't. It's the internal database made public, and we haven't dumbed it down, and people seem to cope quite well, and I think, there is something quite nice about allowing that. The materials are everyday stuff, so you won't get the Linnaean classification which I know the scientists really wanted, but nobody had time for. So, it is in the right structures, and some of the minerals and metals are quite specific. And what's lovely is that, in a sense, you're educating people, so why should you call them all something stupid. Keep those terms. People's names are names, so that's okay. So on the whole the descriptions are: this is something, made of something with a bird on it, some of them are very complicated, but we never rewrote, we can't, it's too many. So this COMPASS thing was a bit of a,

SF: *But it was never considered as a serious alternative to your approach of making the internal database available. Hypothetically, you could have expanded COMPASS to ten or twenty thousand objects, but not the whole collection?*

JS: We do have 2.25 million records online

SF: *So it wouldn't have been possible!*

TS: The trouble is, this idea of having the online research catalogues was brilliant, and then there was an idea of having mini-online research catalogues, each with a theme, and that is a good approach - each could be created in relation to the curriculum, for instance. But the basic information - as I said, it is partly a resource issue, I mean, how are you going to rewrite all of that, so you write it for internal, and what's amazing is that people seem to like it.

JS: They really do.

TS: So I think the right decisions were made not to try and just put the best out. Someone from the Ashmolean recently asked me, 'Do you do quality control' and the answer is no, not really. Not like that. Only very rarely do we say, 'that's not really good enough to go out' and we'd pull in the curator, but only very rarely would we take the record off if we've done it. But I think the fact that they're out, and I think name and shame, where you kind of hope that they realise that world is looking at it.

SF: *This sounds like a success story, but before you did that, apparently there was a lot of fear that internal information would go online.*

TS: No there wasn't a lot. The only type of objection, and I think two people might have mentioned it, in my knowledge, so there was no fear - there may have been an unawareness. I think at the top level, the reason why Anthony had to go twice, was because the first time, he was too early. It's a big managerial decision to put everything out. But the only two people I remember who were worried that their internal information might go out. And there are private fields in the records anyway, and I'm sorry to say it would be delightful if everyone did their research on the system. But they're not. But that was the only kind of objection.

JS: The general feeling has always been, I think, that it's a collection that is owned by the country, not the museum. And we have a duty to share it. [42:21]

TS: Now this idea of public information, public access and the freedom of information means that people can ask any time, and they have a right to look at your files. I think in those days, things have moved quickly since then. It would be interesting to see the history of the big collections going online. The big ones usually have the money, so they're more likely to be the

Nationals going out. The smaller museums usually need a bit more help. The history of the technology is a big factor.

RK: You've mentioned that time is an issue - getting information into the database is an issue, and you mentioned that there were some challenges around technical language, and people feeling uncomfortable using technical language or with that interface. I was wondering if there were any other key challenges through as the projects have evolved from one form to another - other than the time and technical issues, have there been any others?

TS: The technical thing - we made it as pleasing as possible, but it just takes longer than writing. You have to learn and create the terms. It's not technically over-demanding. The time factor, for me, is the main thing, and going from a less sophisticated system to a more, not so much now, but in the early days, we didn't have the fields that we now have, so things were mashed up into free text, and a couple of bosses I had were so clever they could work out how to extricate what was relevant from the mashed up stuff into the specific. So the other issue is that if you go from a simplistic to a more sophisticated system, with more fields and more potential for recording, in the old days, you didn't record certain things, and then suddenly it becomes available, then up to, say 40% of your records don't have it, so they're of a certain level. For example, when I started with the forms, we didn't have 'subject' or 'iconography', and we had something called 'design' for two-dimensional objects and 'form' for three-dimensional shapes. God knows who thought that one up. So that was what we recorded. And so anything that referred to 'design', whether you had a picture of a garden, or the annunciation or whatever, then every word; 'angel', 'lily', 'archway', it all went into the design field. And if you had a pot in the shape of a cat holding a mouse in its mouth, then the form was cat, mouse, mouth and so on. Now imagine going from that to one, unified subject matter. Can you imagine? And that's what I mean about going from simple to complex. So what happened was 'iconography' as a subject was created for Prints and Drawings, since it was the first department to come into the system that needed sophisticated iconography. So they had their own, and then I insisted that the other departments merge their crummy design and form into that, and Julia knows, because she had to go through those lists, god knows how... JS: Slowly [laughs] There were a lot of them, and you just had to work through them one by one.

RK: And you expanded the fields that you took from Prints and Drawings to make space for everyone else's strange terms to fit into?

JS: Yes, some of them obviously fitted in quite nicely. Some of them you went, 'Actually, that isn't all that helpful,' like telling me that its rectangular, yeah, and those didn't go across to the subject.

TS: The other thing was, and we had a lot of fun, was when we had to bring the ethnographic terms into the subject matter, and of course the usual thing of the western snobby attitude, compared to elsewhere, so things like 'hunting' and 'shooting' had been nested under 'sport' but we were told 'no, they're not, they're subsistence' and we thought, 'Bloody hell,' so we had to re-shift them all. Shepherd and shepherdesses became hunter-gatherers, so those became 'herder'. It's very interesting, I think - because when we added some of the Asian stuff it was so different that it made no difference, but where it was the same word but the meaning was completely different, it was more difficult. So religion, 'Oh, no, religion must become belief'. So we did it. It wasn't very good, but it worked, and that's the thing, you can adapt it [49:30].

Do you know anything about book illustration? Tailpiece and headpiece, where you have an illustration at the beginning or end of a section or chapter. So we had them under 'book illustration', and then it turns out that in ethnography, a tailpiece is a buttock cover so there have to be ways of distinguishing. It was very good for us as well, because we could cope with this.

SF: *Do you think this might have been the first time that art historians and ethnographers were aware that they were working in the same institution?*

TS: No, we can't pretend that we had such a major effect on the whole institution, but I think we became very aware. And also when the database become bigger, the more the cross-departmental similarities became more evident. So in Ehnography, for example, there are artists shared between Prints and Drawings and Ethnography, like Anish Kapoor, I think. There are Middle Eastern, and African modern artists, that are shared, and that to me is fantastic. Mughal art, too, I'm not quite sure where it goes, but it gets shared quite a bit.

RK: *And this was a result of the database making it easier to interact with each other?*

TS: Yes, isn't it smashing? It's beautiful. And once you get that 'Oh, wow' bug, you can just see how a collection goes from being in silos of information, to suddenly opening up possibilities. But for me, the breakthrough is not between the huge digital research projects and different institutions, which is lovely, but quite restricted, and I don't know how the public access it, and for how long it is available. To me it's getting that stuff out there, in its entirety, and making those connections possible for the public - you don't have to be a researcher, it is there for you to then research.

SF: *And you would say that once there is a critical mass in terms of objects, the curators would also see the benefits of using the database, and were more motivated?*

JS: Yes

RK: *Would you say that the value in those situations supersedes the creation of a new tool? I'm interested in how existing technical infrastructure is reused or repurposed or adjusted to suit a new set of objectives, which is why these iterations of the database are so interesting to us. Why reuse the old infrastructure and not create new tools, if that was an option?*

JS: Well, partly because in some cases, the way we hold our data is considered, we've thought about it, and it is useful as it is. It can be easier to add things to that, and to an existing set of data, rather than trying to migrate it and then re-use it. Cause we're not going to get rid of the data. And the data is in the structure that it's in. And we've got 2.5 million records and migrating that much is not insignificant. And yes, we could migrate it to something entirely new, but to be honest there aren't a lot of other options out there for us, because the structures that we have are ones that tend to make sense in the context. [54:27]

We can add new stuff to it, but starting afresh would kind of feel like reinventing the wheel, I think.

TS: Exactly, one of the things that I have been thinking about is because there are these discussions at different levels about mapping to standards, like the CIDOC CRM and so on, and we were one of the first to consider it. I remember many years ago, and it wasn't a good project because of the way it was done, but I was invited several years ago to speak at a Europeana conference in Paris, and the idea that you could go somewhere and search through all the big European databases, as a starter for me was magic. So I was invited to contribute, but of course I couldn't take that decision, and they came here, and we were going to send some data, and then I went on holiday, came back and found that nothing had happened. And I know that there are good reasons why, but the idea, to me, the extension between having on departmental collection on our database, because it was built up in bits, to the whole lot, to having a critical mass for searching.

For me, extending that to all the major collections in Europe and America is fantastic. And when semantic web and all that started, the impression I had was that you would be able to say, 'Oh, I'm interested in finding all the Dürer in public collections,' but you certainly can't do that now. [56:45]

Now whatever happens with Research Space and these other special projects is fantastic, but as a normal person doing normal research, as a student, or a school teacher or whatever, the

idea of being able to go somewhere and do it, that for me is an extension of what we already have in the Museum, and it isn't there yet. And that's where resources should go. And I know they are, but it's not yet there. So you've got the Italians doing it, certain countries have much more, and in Britain we don't have a proper agreed one. Isn't that the goal for research and sharing knowledge?

RK: *I think for projects like Europeana, that was the intention.*

TS: That was the intention, but it hasn't worked

RK: *Yes, that's the big thing.*

TS: I just don't know what the future is.

SF: *Before you go, could you just tell us who you think are the key figures in the digitisation process over the last 30 years? Anthony Griffiths you mentioned already. Anyone else?*

TS: Well, David McCutcheon should always be mentioned, because he was the one who managed our project, in a quiet but very successful way [59:31] The Director we had, certainly encouraged the idea of the collection online and this public visibility.

JS: In the past presumably the previous head of documentation?

TS: David McCutcheon was, and then Peter Main was his successor, and he brought the next system in, he was excellent too. So the people in my section, people there were sympathetic without requiring things [1:00:20]

Anthony, from the curatorial side, to have an academic doing it helped. In our section, our current staff, we're such a small team.

RK: *How many are you?*

JS: Now, or this time next month? We currently have Tanya, part time, we have a full-time technical manager, we have me, and we have a documentation officer who is part time, and we have a documentation assistant who is a job share, so they're cataloguing Palaeolithic stone tools and tokens and coins.

TS: So it's five posts to cover 2.5 million records, digital assets, all the training, all the documentation, conservation science, and that's why I think, to be honest, we should take credit too - because to manage it at all... It would be lovely if we could tick every record off, but we can't, it's huge. But I think because when people work and they're dedicated, and they're not doing it for other reasons you have the passion, you share it, but I don't know the answer to your question. I think what you'll really be interested in is what happens when they

join us to work on the thinking about the new website. Because the joined up thinking I think, when you have your object, paper, exhibition.

At the CIDOC conference, the paper that Richard Light gave about jumping through object, he said that we had some of the best records to use because we have the names properly recorded, so you can go from one to another. And watch the trail of connections.

[Tanya leaves, RK and SF reintroduce ourselves, explain the project]

RK: Before you joined us, we were talking to Tanya about her history and experience of working with the database and the development of it, and maybe that's where we should start for you as well [1:07:38]

If you could just describe for us what your first encounter was with this database when you arrived here?

JS: So it was back in 2007 and as a database it was one that I had been using elsewhere. Obviously the BM's data is on a very different scale, it's a very wide, very disparate collection, and I think that the museum has done itself a lot of favours in the past, because one of my first impressions is that there weren't separate databases for different departments, which is what I've seen elsewhere, and the BM had a single database that everyone fed into [1:09:14] And there was a good recognition that actually we're all looking at the same sort of thing and that the different parts of the collection aren't as special as curators often think they are, because a dimension is a dimension, and for a dimension you need what you're measuring, the value and the unit. And it doesn't matter whether that's the height of something, or the angle at which the coin was struck or the bore of a gun - they're all still just dimensions, and that was something that quite impressed me about how they treat their data, is that it's a unified thing, rather than very disparate, as it can be conceived. Because, when you do have a print, and a tailpiece, or two tailpieces of two very different kinds, you can think of them as being very different things that you can't possibly put in the same place because they're so very different and you need to think about different things [1:10:47]

And we've just gone, 'No, sorry, they're not, they are all the same'. They all get the same treatment, so that is good. And that was the thing that most struck me about it.

RK: When you arrived in 2007, where in the process from BMUSE to MAGUS to MERLIN was the database? It was already going online?

JS: Yes, I arrived in June 2007 and it went online in October, so a lot of the work had already been done - do you want to know about the process?

RK: *I think we're interested in the decisions around putting it online, and Tanya spoke to quite a lot of that. But it would be interesting to hear your perspective. It's one thing to build something for internal use, but the idea that it would have a wider, external application - we'd like to know about the decisions concerning the strategy behind that process?*

JS: A lot of it was around that concept of being a museum of the world, for the world, it being a public collection, it's not owned by us, it's owned by the nation, about the BM Act - do you know about that? [1:12:48]

RK: Yes

JS: Ok, so it was about it not being ours to hold back, so the decision was made to publish and to publish pretty much everything. The number of records that we have and hold back are fairly minimal, they're notes, they're records we have for things that were destroyed in the War, where we keep the record to say, 'this is what should have been here' so we have a reasonably good idea of what the collection has been. And those we don't publish, because somebody coming up to us and going, 'could I come and see this?' we'd have to say, 'Umm, no.' And we don't publish loans in. So we have long-term loans from various institutions, the Royal Collection, things like that, and we don't publish those as though they were our own. It's just one of those things where you go 'oh, why would we?' [1:13:58]

But aside from that, we pretty much send everything out. Our database is set up to default to publishing. And that was one of the big decisions, and the other big decision that we made right at the beginning was that we weren't going to make any judgement about the content. So there is Shunga being published, there are various explicit images being published and we've just said, 'It's an academic collection, it is what it is and it's out there.'

SF: *So you've said that there was a general feeling that this was the right thing to do because it is in line with the general goal of the institution to make the collection available to the world. Can you remember any particular situation in which this idea was appealed to? So maybe in a meeting or how did people talk about this?*

JS: It would have been in working group meetings, and I do remember it being discussed vaguely, and we just said, 'Well, obviously, because of the Museum's policies on these things that we'll just send everything out.' We did talk more about the Shunga and sexually explicit stuff, but as I said, we came to the conclusion that it would be very difficult to pick it out and say, 'No we won't send it' and also because it's not our collection, it's a public collection, so we just said, 'Ok, we'll send it out.' [1:16:09]

SF: *So when you arrived at the Museum, the general impression was that there was a consensus about this?*

JS: I would say so, yes. Because it's the Museum policy. It's of the world for the world and that 'for the world' means that we publish.

RK: And is there a technical consideration in there as well?

JS: To a lesser extent, yes, when you have that many records, it's very hard to start unpicking things. [1:16:41]

Because it would mean you have to go and look at all of them, and that's just not an appealing prospect.

RK: So that's helped us put together the historical narrative, but in terms of where you're at, at the moment, I know there is a transition now to a new database taking place. But would you say that there is any difference between the aims of the new database and old one?

JS: The new database will give us more opportunity for collections management because when MERLIN was set up it was very much about cataloguing - recording physical information about the object. The new version will give us a lot more opportunity to record the collections management information about it. We have, at the moment, a separate loans database, and the new database will allow us to bring that in and make it more streamlined and make it easier to manage our loans and our collection together. It has a lot more procedures so it will make things easier. So in some ways yes, there is a slight shift because the new database will let us do that. But on the other hand, we're not enabling those functions straight away. Our main task first is to migrate all of that data, which is a massive task. I mentioned 2.5 million records - that's 2.5 million catalogue records, we have the best part of 200 000 names. We have hundreds of thousands of places, we have all our conservation records, there are hundreds of thousands, I can't remember how many conservation records, there's 35 000 documents links around scientific treatments. There's a whole heap of terminology on there. So I think works out at about 3.5 million records all together from various different directions. [1:19:30]
And then there's all the functionality that goes with that. So initially we're just moving, and then we're going to start looking at adding new things in, but it will enable us to do that.

RK: And you mentioned that it's going to help with collection management, and I'm assuming that to a certain extent that is an internal process, this is for staff within the museum?

JS: It is, but if you look at collections management, stuff like loans in and out - us being able to record loans in and out better because the systems are working together instead of being separate, that means we record where our objects are, and we save that online. So if we say

that an object is out on loan, it actually says on Collection Online that it is out on loan. [1:20:21]

So it will have an effect on the public face as well.

RK: *And without asking too many technical questions, this new database, is this built on the bones of MERLIN?*

JS: MERLIN is a modification of Museums, and MuseumIndex+ is a version of that, so it's all based on Index+ and a lot of the underlying structure is exactly the same.

RK: *And do you think that that had an influence on the decision to make this move?*

JS: Oh absolutely, yes, it's not a move as much as an upgrade, we're thinking of it as an upgrade [1:21:30]

It's the same system from the same company, it's basically just the next progression and it's not a particularly new system – we're kind of behind the curve on the uptake of it, but because MERLIN was so modified we thought, 'Maybe we'll have to hold off for a bit' as a rule. But yes, it's all based on the same structures and a lot of the functions are exactly the same. Which will make take-up around the museum a lot easier. [1:22:04]

SF: *So you will have to train staff to use it? Is this something that you regularly do?*

JS: Tanya does the MERLIN training, I do the digital assets training and a colleague does the conservation and scientific research training. We are going to have to do a bit of training around the new system just because it looks a bit different, it's kind of inevitable but yes, there is fairly regular training anyway. Because of the turnover of staff we have huge numbers of people around.

SF: *There seems to be a real wealth of different repositories and finding aids at the museum with this database being kind of the mother of them all, where all the information has been fed in. Are you aware of whether anyone in the museum is still using one of the other finding aids or repositories? Are any of the curators using the printed catalogues or the ledgers?*

JS: Well, when you say 'using' - Anthony Griffiths, who we were talking about earlier, he comes in and goes through the registers and makes sure that the acquisition details on our database are up to date or accurate, so he's adding information from the registers, so in some ways they are still a used, living document. But in others, no, we don't actually work on paper anymore. Yes we refer to them but MERLIN is where we store most of the information and if we refer to the register it's because we aren't entirely sure of what's been said on MERLIN and we want to go back to where it came from and check that and work out whether somebody has just got

really bad handwriting recognition. And if we can improve on that and then that information will go back in. [1:24:32]

So the register would never be by itself, it will always be: having looked at MERLIN, then gone to the register and then made the changes back into MERLIN because that is where we store the information. Inevitably you're going to get curators using the printed catalogues just because you might have different information in there. We do encourage people to put all the information that's in the printed catalogues into MERLIN but we've got 250 years' worth of history here, and that's an awful lot of paper. And we've only had thirty years of digitisation. We've still got a way to go. We've still got a way to go finishing digitising the collection, let alone all the archival material around the collection, we hit 4 million objects, compared to records, because one record might cover more than one object, last month. We're so proud. But the official estimate is still 8 million records, and that is still an estimate because we haven't finished cataloguing everything.

SF: So it's double the amount?

JS: So this is why the information in the paper catalogues might not necessarily all be on there.

SF: And because presumably the curatorial staff would know where MERLIN is good, and know its limitations and so know where to go to look for information, in the catalogues for example?

JS: Yes, but again, we usually encourage them, if they know that MERLIN is patchy, to do something about it, and they do. They do improve and create an awful lot of records. I think we add a couple of thousand images and updated records a week

RK: So as a casual browser, looking at the Collection Online, or MERLIN, it's updated once a week? So if I were to look today, and again in 3 weeks' time at the same object, might there be a discrepancy between the records, as stuff gets updated or improved?

JS: MERLIN is updated constantly - we have content publisher that runs every week and updated collection online from that [1:27:30]

At the end of the week, after a week of people making records and updating records, the content publisher runs and Collection Online updates, it tends to be over the weekend. And at that point it will add any new terminology, add any new records and then re-index everything to make sure that everything is still searchable. It's quite impressive.

RK: If we're going to be talking about the way the Museum has used its internal processes to build a system which now faces outward as well, and there has been this process of building upon

each database, my question to you would be, do you think there is anything else that is significant or important for us to think about as we start writing? Any aspects of the process that you've witnessed as being significant, or surprising?

JS: Tanya has spoken about Research Space, the linked open data? Because I think that's quite significant, and apart from that, I think we've covered pretty much everything. We've worked quite hard to make our online database as efficient and functional as our internal one. So if you use Collection Online a lot, you will have used our advanced searches, and we designed those so that they follow the same terms and they use the same structures as our internal one. And so we've worked quite hard to make those as accessible as we can, because.... [*pause, goes to computer terminal, types*]

things like that. If I search for 'samian' we don't use that term, we use 'Gaulish Red Slipware' so it's quite sophisticated, as these things go, to say, 'Well, we'll use all our non-preferred terms in there'. We'll make it so that it's as good a search as it can be, and if you do use the advanced search, then it's a really powerful search. But obviously, hopefully soon, when we replace it, we'll be using proper linked data and it will become even more powerful. And personally, I'd quite like us to think about making our database reflect the way the CRM thinks about things, so I'd like to see something more event-based. I mean, we're partway there, which makes it so frustrating, [*types*] so we have a particular object that demonstrates... yea, that one. The difference between human and machine readable quite nicely. This is an Asante silver disc that was made in the 19th century and it was brought to London by Garrards, who built a dish around it. So there were two production events. [1.34.16]

So if you look at the record as a human, you can go, 'Ok, well I can see that the dish was made by Garrard in London, in 1874 and the pendant was made in the Asante region in Ghana sometime before 1874 and it is associated with the Asante.' But that's something you can only work out as a human, reading it. What I'd love to see is us going, 'Ok, let's make it machine readable, let's make it so that the event is Asante before 1874, and then another event being Garrards, London, 1874.' And I think our search both internally and externally will become infinitely more powerful at that point. But as I say, that's personal opinion.

SF: *And that would be a very significant change in the infrastructure and architecture?*

JS: Yes

SF: *Now that we have two screens open, could you explain the main differences in the forms or masks, what are the differences between what outside users can use and what internal users can see?*

JS: Ok, let's go to the collection online entry for that record. You can see pretty much the exactly the same data - the producer name, the ethnic name, two production places, you've got pretty much exactly the same information. On MERLIN you can see here, that these fields are purple - they don't go out. That's the difference, they're admin references. There is some stuff about whether it's going to Google Cultural Institute, whether it's released to the web, what its object number was for a different system, it is not something that is relevant to most people.

RK: *And if there is some preservation data or technical metadata that might be purple as well?*

JS: There's not a great deal that we hide - we don't give any information with an ID on it, because that's a risk for theft. Unless it's actually on display, we don't give location information for most places, some departments do choose to put out it out anyway. Most of the stuff we hide is about acquisition. We don't tell people how much we paid. If we've got a name and how much we've paid them, it's not a good idea. So valuation and purchase prices don't get published. And to be honest that's about it. There's an extra field called 'collection' and that's for grid references - we don't give that, for nighthawks and stuff like that because that's not appropriate either. All the associations go out, all the inscriptions go out, we don't tell people where we write about it, but condition reports go out, but there is a general notes field that doesn't. And we don't publish historic legal text. That isn't because we don't think it is a good idea, it just that it was a recently added field and it doesn't fit with the publication process. And then, I think, we don't say anything about who has created or amended the record. [1:39:03]

Aside from that, as you can see, there's not a lot that doesn't go out.

RK: *And you mentioned that some departments choose to make some information public and others not. Does this mean there is an on-off switch on some of these fields?*

JS: It's quite a complicated on-off switch! Some of the departments hold their collections here, and some hold them offsite. Some of the ones that hold them onsite have chosen to show where it is, so that someone can print a sheet out and say, 'Can I see this please?' and instead of having to go, 'Ok, well, I'll just look that up for you,' they can say, 'Oh yes, that's just over there.' And it's just convenience as much as anything. That and the fact that the locations don't really mean anything to anyone who isn't actually in the department. Whereas, as a rule, we don't have storage location information.

SF: *It would be really nice to see someone enter a records from a paper source into the database.*

JS: We don't tend to catalogue from paper, these days, it's from an object. We try and avoid cataloguing from registers rather than from the object. [1:41:50]

We kind of like to make sure that we have the object. And there are things you can do with the object rather than from paper, so dimensions are important, and the paper version is usually recorded in inches and we don't want imperial measurements, when we've just got a ruler and can enter that.

RK: *So there's that degree of interaction with the object still happening, when people are entering stuff into the system?*

JS: I would say that about 98% of new records are created from the object.

SF: *But initially it was a transfer from existent paper?*

JS: it was a mixture, some was from the object, some was from paper, some was from both. I mean, my documentation assistant, who is cataloguing Palaeolithic stone tools, she'll come across a new collection, she'll check the register for the acquisition details and for all of the things that apply to everything, and then she'll catalogue the objects. So you tend to have that mixture of things. You still need to be looking at the objects to create the records because that's the important thing, that's what you're actually cataloguing, but you'll go back to the acquisition details and the object files and the paperwork and any letters that came in with it, to make sure that the information about the people and the dates and the acquisition details are all correct.

**ResearchSpace is the Museum's Semantic Web research environment. At the time of the interview, it was not connected to the Collection Online database, which meant that changes to the collection records did not automatically update in the semantic or linked data version of the museum's database.*

Interview Transcript 2

Anthony Griffiths: Keeper in Department of Prints and Drawings, British Museum (1991 – 2002, retired).

23rd May 2016

Interviewer: Rebecca Kahn (RK)

Interviewee: Anthony Griffiths (AG)

RK: What was your involvement with the digitisation of the Museum's catalogues?

AG: I joined the Museum in '76. I was a young Assistant Keeper in the Department of Prints and Drawings, responsible for the Print Collection, so I came in as a young man in the Department – it was my first job, straight from the Cortauld. And in 1981 I became deputy Keeper in the Department, under a completely useless Keeper, so to a certain extent I was having a lot to do with what was happening in Prints and Drawings [(P&D)] from 1981 onwards. In 1991 I became Keeper, and I retired in 2011, twenty years later.

I became - well I set up, if you like - the Collections Documentation Committee in 1989 or 1990, I suppose it was, when we were transferring from the batch processing system to MAGUS, and from that point onward I was heavily involved. But until then, I had very little to do with it, because Prints and Drawings had not been computerised, so I had very little to do with it from a departmental perspective. And I had nothing to do with it otherwise. So, it was very much setting up the Collections Documentation Committee onward that I can talk about. (1.05)

RK: *In terms of your interaction with the digitisation process, can you remember the point at which the divisions with whom you worked began to think about digitisation? And what prompted that?*

AG: This all happened somewhere else in the Museum. It's a huge place, and you never knew what was happening anywhere else. (1.39)

I mean, you know the history of where it started – as a batch processing system in Ethnography to try and find the missing provenance of the ethnographic stuff.

Basically, the Research Lab always did exactly what it wanted, paid no attention to anyone else and they had a computer, because they decided, 'We're up to-date, we need a computer and now what the hell do we do with it?'

Well they wanted to number crunch, and do some of their own analyses, that was one thing, but then someone said, 'Oh we should use this to do something with the collection', and that is where, I think, the link with the curatorial first came in. (02.20)

Ethnography as a department has always been the basket-case of the Museum with the worst records, a really shocking department. And so, you'll find that many objects in that department had four or five different inventory numbers because they re-inventoried every time they lost the original number, so it was a real mess. So the theory was that they could find out the provenance. However, that department being what it is, they never got around to doing it.

But they did, by dint of using these batch processing people, get it on the system. (02.58)

Well then it moved from there to Medieval and Later Antiquities, that was the second department, I think, where my wife was involved, and there, I think, at that point (and again, I had nothing to do with this) the decision was taken somehow, that the whole museum collection ought to be on. Now, in the way of museum decisions, no-one thought about what this entailed, or how you were going to do it, or all the all the rest of it. We sort of drifted into it. But David Wilson, who was then the Director, was a great enthusiast, we all loved him, and you know, he could see the point of it. So knowing the Museum well, because he'd been a young man in the Museum too, he reckoned that the only way to get anything done here is to start it and see how it goes. So that's where that happened. (03.50)

So when I looked at it, as Deputy Keeper in Prints and Drawings I could see that the old batch processing system would be a complete nightmare for us, it just wouldn't work. So I tried to make sure it wouldn't get to P&D until we had a better system. And it was David McCutchen who was the absolutely key man and who did it all, and who is dead, unfortunately. But David, a South African, a very shy, introverted guy, was very good at this, and he really did think the thing through, and I think the success of the database structure is entirely due to him; his personal achievement. I remember him coming around to P&D before we started and having long discussions about the field structure and everything. You could tell that he was entirely on top of the problem. Of course, in the BM we had big problems because there was such a lot of material of utterly different kinds, and much of it we had to make up as we went along. It really was a question of 'How are going to fit this into field structure?' (4.55)

RK: So within P&D specifically, what were the key decisions that had to be made when you were thinking about how to make the system appropriate?

AG: Well, I had to work out (and I think I can claim this) what the fields we wanted were. One of the great issues of computerising Prints and Drawings is that no one had ever done it before, there was nothing you could use as a pattern. So you simply had to say, 'How would I wish to catalogue a print and which fields are necessary, and how do we map this onto the system and how many extra fields do we need?'

I remember the one which David never thought about was 'title' because the rest of the museum doesn't have it. It really went like that. But even having decided on field structure, we still had to decide on how to go about doing it. Particularly: what should a description look like? How much text should go into a description?

Apart from computerisation, we had the nightmare in P&D that the actual physical arrangement of the collection had been decided in the 1830s, so we had to spend five years reorganizing our collections first before we could catalogue anything. Because I knew the moment we started reorganising after we'd put things on the database it would have meant individually relocating everything record by record because you couldn't do it in batches. And that would be disastrous. And since our biggest problem, in the department, at that stage was not knowing what we had and where it was, for me the location thing was absolutely critical. So I realised we couldn't do it by case number, we had to do it by series. So then I had to create the series which could go onto the system. That really was five years of bloody hard work. We had to change the entire departmental physical, manual indexing system which meant writing out twenty-five thousand new slips in the Artists' Index. It was a huge job. (7.34)

RK: Are those the blue slips? I was observing cataloguers in the department and they were showing me in the room where they were working...

AG: No, no, that's a much earlier generation of blue slips. Those are late Victorian. No, these are what we call the Artists' Index, which is a slip by artist. So you'd have a slip for Dürer, and then all the locations where Dürer materials are kept. It doesn't tell you what's there. But that was the old way that it worked. It was really critical, and the whole department was falling to bits. In a way, you could write on my gravestone that I saved the department by rearranging the whole collection and making it future-proof. Anyway, so that was five years.

So I then had to say: 'how does this link to, or overlap with the computer?' And that was why we decided to start with the drawings which was one collection which already had been sorted out, and which I didn't have to rearrange, it was ok, and because all of my predecessors had been drawing specialists, that was in quite good nick. That was the easy bit – to transfer that.

It took us ten years to get fifty thousand drawings onto the system, with, theoretically, 2.5 people working on it. (8.55)

This is really the biggest issue I was concerned with outside the department: how do you get the bloody thing done? Nobody knew how many works were in the collection, and you had no idea what the quantification would be - although we discovered that everyone always overestimates. (9.20)

But it's still a huge amount of material and I realised that at the beginning, it was all done by special teams, the CDMS [Collections Documentation Management System] - Tanya and her merry men, and they did a very good job. They were the ones who created all those thesauri, and all that structure. Which was again, a huge job. They had constant meetings, and everyone was always complaining about another bloody meeting, and not being able to get on with any actual data entry. But it was very useful, and a very good structure. And no-one else has tried to do it, to my knowledge. And David McCutchen was behind that too - he was absolutely determined that there be a thesauri and authority files. In my department the only authority file that really mattered was the name, the producer name. And that authority file didn't exist. (10.20)

We didn't start putting on all the drawings until about 1990/91 and so we never touched the batch-processing system, we started with MAGUS, thank god. Now, curatorial involvement, that worried me. And that was why I persuaded, well, this is my memory, you'll have to cut me down to size, but of course you always bulk large your own role, but what I remember is certainly, there was no sort of curatorial involvement. It was really David McCutcheon and the guy in the computer section, Peter Mayne. He was the other great hero who understood the computers by sheer chance, well, not by sheer chance, because why would you work in the BM if you weren't interested in objects? But he was, and he did understand things and he's quite an art historian himself and so he's a very rare man, a techie who understood what you were talking about. So it was Peter, when David McCutcheon left in the 1990s, who took over, and it was Peter and I with Tanya really who very much kept the thing going from that point onwards. Because I was really the only senior curator in the Museum who really believed in the whole thing and most curators went, 'Oh that's someone else's doing it's nothing to do with my life.' For me it had everything to do with my life because it was the only way to get on top of the P&D collection, which is, you must remember, ten times larger than any other department, so we did have a problem.

So I got this committee set up, the Collections Documentation Committee, trying to work out what this new database really represented. Did you ever read that report? It's on the Z drive in the Museum. Cause that's the thing, I'm quite proud of that report, because it is, if you like, the theoretical underpinnings of what we were doing, which is rather *ex post facto* as we'd started by then, but it was us trying to work out where we were going and what it was supposed to be, and in particular what was the relationship between the new database and the old registers. That was a very important question. So I got in and I told David Wilson I thought we had to do this, a) to work out what this thing was, if it was going to cover the whole museum and b) to work out what the role of curators was going to be. Was it to be a hermetic system, run by CDM [Collections Data Management] assistants, or were curators going to use it? And of course, that was quite a battle because CDM always wanted to control it. I was determined that curators be able to get at it, because otherwise it would go nowhere unless curators made it their first way of archiving and storing information. And of course there were silos of information all over the Museum, everyone had their personal files, and that was a big difficulty about moving across to the computer system: 'Oh, what do I do about the old stuff?'

And of course that problem's since not solved because there is plenty of other stuff lying around which isn't in the computer.

RK: And I would imagine as soon as anyone retires, that information would walk out the door?

AG: It would go. Yes. And that was, of course very, very obvious for me in Prints and Drawings.

Apart from the drawings, where there was a system of dossiers for some of the more important drawings, there was absolutely no way of keeping information about anything, except to write on the mount, write at the back of the print, or write in your own personal file which would go with you. And the whole history of the department was people who built up over thirty, forty years huge amounts of expertise which walked out of the door with them. So we had to do something about that. So we set up that committee, and I got all the brightest young people in the museum on to it. And Mark Jones was one of my team on that – later V&A Director himself. And we did, I thought, a very good report. So we set up the committee and David Wilson never bothered to read it, as usual, and it was put before the trustees, who never bothered to read it and they all just said, 'Fine, fine, fine.' (14.50)

But then we had to implement it, and that would be a lot of work on the back of it and that's where the CDC became a standing committee which went on until I retired. One of the many

disasters that has happened in the last five years was that Neil MacGregor had zero interest in the database, in fact he rather disliked it because it became a curatorial tool, and he didn't have control. (15.10)

He's an absolute control freak, 'Nothing happens in the Museum unless I do it; and if you do it it's a bad thing.' Dreadful, dreadful, dreadful Director. When I went, I had someone lined up to be my successor, and Neil forced him out. So no-one has taken it over, and it's a complete void now.

RK: But It sounds like there was a degree of autonomy once you'd had the sign-off on creating the database?

AG: This was always the way the Museum worked. It was a very delegated, decentralised organisation with lots of units doing their own thing. (16.11)

The joke always was that each department was a museum to itself and there's a lot of truth in that. And you either loved it or you hated it, and I loved it because of course it gave you an enormous amount of autonomy and if you had a good Keeper a lot got done. It really meant you could do a lot. If you had a bad Keeper, bugger all happened. At the moment, everything is totally centralised, and no-one is allowed to move an inch without it being centrally controlled with the result, in my view, that almost nothing is getting done. The Museum is a dead organisation and dying fast. (16.48)

But, ah, it's a great pity.

RK: Was there any attempt by the Museum to fold the collections documentation work (digitisation) work into the Museum's great narrative / strategic direction?

AG: There wasn't a greater narrative. The narrative was that the seven or however many departments it was, eight? Nine? Ten? They keep, like amoebas coalescing and splitting... But no, basically, the assumption always was that each department was its own sort of core, and the Keepers knew best what was needed and it was a dialogue with the director to get the resources to do whatever it was they felt was required. So the database was very problematic as it cut right across all of this, and that was one of the big issues in it and why the Collections Documentation Committee was rather important as they only sort of body to try and sort of pull it all together. Fortunately, being headed by curators, at least you could speak to your fellow curators and although some of them behaved abominably, you could sort of work round them. And you could certainly work through the junior staff, usually the junior ones understood a lot about... The senior ones had never used a keyboard, you have to understand, it was that generation. (18.22)

I mean, I never used a keyboard in my life until I was halfway through my career.

I remember my boss, in a similar situation, coming rushing in to me, and saying, 'Anthony,' he'd just bought himself a word processor, there were none in the museum, 'Anthony, my word processor won't do capital letters.' So I showed him, and he said 'Ooh, how'd you do that?' and I said 'Well, I pressed the shift key.' So that's the curatorial basis, you have to remember that. And so, of course people were worried, forget about any implications, just using the bloody keyboard was an issue.

RK: Once you'd decided what was needed, how did you mobilize support to access resources?

A: There was a team for the CDMS, so that existed already in the late 80s. I can't remember how many there were – a dozen, or fifteen, something like that. And there were a three of them in each department, and the idea was to knock off three or four departments and then move on to the next. And that was in process, so basically that resource was already there. It was just a question of which department was next, that was more or less mapped out, so that wasn't really a big issue.

The big issue was to try to get departments to do something themselves, rather than just say, 'Oh, that's what they do, it's not what we do'. And the way we did that was to say that from 1993, all registration of new acquisitions had to be online – that was the route in. (20.00) And of course, that meant that someone had to do it, because that had always been a departmental responsibility, it was never a central one. Departments always did their own registration. And registration was in fact a sort of mini-cataloguing, although it varied from one department to another. So that was the route in to get departments to do something, and that was quite an effort. You had to go around to each department and say: 'Do you realise you have to do this on the computer?' And then of course it always chucked up all sorts of new problems as you went along, nitty-gritty sort of stuff, but someone had to answer the questions. And in the old days it would have been David McCutcheon who would have done it himself, but he'd gone, and so it was us in the CDC, and we tried to tackle them one-by-one and decide what would happen.

So that was happily chugging along through the 1990s, and then we had to transfer to MERLIN, and so I was the sort of project sponsor a little bit more, but of course Peter Mayne did all the work – he was the brains behind it, not me. And MERLIN of course was a huge relief, because MAGUS was a very difficult system to use. It worked, it was a good system, but it was a 1990s system. (21.04)

And so, for example, if you as a curator, were writing anything in a free-text field, or I think even a non-free-text field, and you made a typo, which you would inevitably do, because you had never been trained to type, and you did a backspace to get rid of it, you wiped out the whole field. So there were some serious problems with it. Another serious problem for my department, and some of the others, was the lack of authority files for names. You could imagine what that meant. At that time, there were three fields that had names in them: A 'producer' name, 'associated' name – basically 'portrait of' and the provenance field. And all 3 fields were not controlled. Except, we sort of fudged up a sort-of authority file for producers in P&D, we had to. Joshua Reynolds had to be the same person. So we faked up a sort of DIY authority file by simply transferring the names from our old Artists' Index, and it was all done by huge numbers of volunteers who were dragged in all the time. Without volunteers this would have gotten nowhere. So that was the beginnings of authority files, in P&D only. But that caused problems, so it was a very difficult system to use. And Steven Kopple, who is still in the Department, and is the young man who got landed with it in P&D was driven mad. I remember him weeping with frustration one day. Of course the web didn't exist - all of this was totally web free. No-one ever dreamt of putting this anywhere for public access. It was simply an internal system. And it was only after we moved to MERLIN in '01, of course by that stage it was dotcom world, and everyone was booming and busting, and everyone said, 'Ooh, the web is the next great thing, what are you going to do about it?' and of course suddenly we found we had something which could be put online, and we were about the only museum at that time who did.

I still remember Andrew Burnett, who was then the deputy Director, and a very good one, and who Neil got rid of as a threat to his power, Andrew said 'I think we'd better get this on the web.' And I said, 'Yes, I guess we'd better had.' He said, 'Will you do it?' and I said, 'OK'. So that was how that decision was taken. And so then of course we had to do it. And that of course that was a nightmare, getting from MERLIN to the web. I had no idea how complicated it would be, really complicated... And that fell through all the cracks in the Museum system, because you had the IT people doing it from the MERLIN side, by that stage you by then a web team doing the web side, who didn't really know what they were talking about, you had already a silly thing called COMPASS, which was a 5000 object thing... which was a big mistake, it should never have happened, but had happened, it was there. (25.20)

And that [COMPASS] was invented as something to use the reading room for. That was the story behind COMPASS...We'd got a round reading room, we couldn't touch the blasted thing because of politics, politics ...what were we going to do with it? Answer: and this came from

the former Director, Robert Anderson, who was a man of complete uselessness. We've had 25 years of bad directors at the Museum and it shows...

So he came up with "I like books, so we'll have books around the outside, and oh well, let's have pretty pictures which we can look at on screens. "COMPASS, your orientation to the Museum" that was what it was meant to be. (26.00)

The whole thing about COMPASS at the beginning was not about cataloguing or about description or text of any kind. It was about having very high-resolution pictures - that's what they wanted. So they went ahead and did it, and spent huge amount of time doing it, and of course all the screens were specially built so they could do all sorts of things... you know, a complete waste of time, and then along comes MERLIN, putting our thing online, where of course the same objects were on both, and I got all the COMPASS text, inasmuch as there was any, transferred to MERLIN. So that wiped out any point of COMPASS apart from the big pics. Well they didn't make much sense on the web, and so COMPASS was really redundant. (26.42) And that's now been moved to Google, which I thought is just disgraceful.

RK: And none of it is available on the Museum's own site.

AG: This typical of modern planning. That, if I was still in my position, I can tell you I would have screamed loudly about that lot. (27.09)

But the curators had to do it... There is no curatorial involvement left, except in the sense that there are many curators, particularly young ones, who now see MERLIN as their way of mastering the collections. I mean, getting it on the web is not the point, that is their way of knowing what we've got, which has always been a big museum problem. So, that's why the thing keeps going, and why, in the future, it will go on being a good thing. (27.32)

There's acres of MERLIN. You'll see crap records, where no-one has done anything about it and that's down to individuals, I can tell you exactly who is to blame for that, but you can't force a curator to do something they're not prepared to do. And in the present age where everything is about AHRC [Arts and Humanities Research Council] funding and special projects that have nothing to do with the museum and getting in extra money, why should they pay any attention to the database? Or indeed the collections at all. (28.00)

And the big, big future question about the Museum is why do we even have collections - that's the question that's coming along big, big time. And I will bet you a very large sum that in ten years' time, the big question in the museums world will be "why do we have collections?" In twenty years' time they'll be selling them off.

RK: As opposed to just producing block-buster exhibitions?

AG: Yes, block-busters are easy. You only want the same objects, and you borrow them from everywhere else. A core of a hundred thousand objects around the world - you can do every

blockbuster you could ever want. The rest of it is very expensive to maintain, we don't want that. You can see that now, with Blythe House, the government store, they're chucking the museums out. Government couldn't care less where things go, they want to sell the building to make some money. And again, it's a huge scandal in the last budget that Blythe House has been sold off, and the museums have been given seven years to move out. They've each been given fifty million pounds each to find somewhere else, and you know where that will be – Bolton, or somewhere. It's the only place in the UK where you can find space cheaply, and you know what that means for the museum – it's going to basically be dead. And fifty years down the line it will be sold off.

RK: But in terms of the Act, can that be done?

AG: Oh, Parliament can just rewrite the Act. You're right, at the moment they can't, but anything can change. The museum has had an extraordinary run in recent years – I mean globally. Huge buildings. Why has all that money gone in, what's changed? What has changed is what the functions of museums are. They've now become a sort of general purpose social remedy. (29.45)

They've stopped being anything scholarly or research institutes. And once that's out of the window, you don't need the collections. And so people like me are the dinosaurs, people who thought they were making collections usable, accessible, putting things on the web - all those things collections weren't. Nowadays who cares if that happens. That's the big issue in the Museum world.

RK: This ties in to the question I had about the stuff from COMPASS that had gone into Google Cultural Institute. The record's may not have been great, but what was there is no longer available either on the Museum's site or on Google. And so if you want to use it for any scholarly purpose, you can't access that content.

AG: Well, of course. There you go. But the texts that were written for those five thousand objects had to be written quickly, *ad hoc*. They were not written by curators. What it was, was five hundred objects per department, that's why it's five thousand. And every department had to choose its five hundred objects, which was fairly easy, and then someone had to write the records. So we all rang up people we knew and said, 'It's fifty quid an entry' and that's how they got written, and they're as good as the person writing them. They had no instructions, no controlled vocabularies, nothing like that. You just wrote whatever you thought Joe Public wanted to read about this object. In a void. It wasn't related to anything else. That may explain many of the peculiarities.

RK: *In terms of the original audiences, when you were working on the structure of the database, did you have an imagined audience?*

AG: Yes, ourselves. It was a purely internal thing. What information did we need to get about the objects? Now we are scholars, so I would like to think that the information we needed was the same as what a great expert on Albrecht Dürer needed, I don't see it as divorced. (32.04) My firm belief that there is no distinction between the sort of information that the specialists want and the public wants. If the public can't understand what you're saying, then you probably can't either. So I felt very strongly that it was a single audience, and I believe very firmly in the cultivated reader. And if they don't understand anything, readers can look things up in a dictionary.

It was entirely internal. It was only when we put it on the web and that was a huge issue because most of the curators did not want it to go out. And it took a lot of persuading – you can see why. There were so many crap records. Of course the starting point, everyone said, 'It can only go out if a curator has signed off the record'. Had that been the case there'd only be about twenty records out there by now, so we had to find another way around that. So what I did – and I thought I was quite cunning about this – I said to people, 'This will take a long time, your records won't be out for about three years, you've got that time to improve them.' Well they couldn't do much about that.

The other objection was, 'If we put them out, everyone around the world will be writing to us wanting to see it, telling us we got it wrong. What's going to be the feedback?' So I said, 'No one knows, we've never done it, nobody has done it before.' And we did feel very much like pioneers. So we put out P&D first – of course, I was in charge, so we couldn't argue with that. And I wanted to do so, I was very proud of what we had achieved. We had controlled the data entry for P&D and had P&D staff do the data entry for Prints, instead of CDMS staff, because I could see they were too slow, and we had to boost the rates, and I could only do that by getting in my own staff who I could control. So that got the rate up from roughly five thousand per year to about twenty five thousand per year and it made a very big difference. But it meant I had to raise all the money, because by not using CDMS staff we had to use departmental funds to pay for the data entry, it wasn't central funds. A lot of money had to be raised by departments. The Museum, once everything was out on the web, said, 'Oh, that's great, wonderful success, end of money.' So there has been no investment ever since we got the thing out on the web, that was the last serious Museum investment in the whole thing. (35.08)

I was very proud of what we had done, and I wanted to get it out, and indeed it caused quite a stir when we put the P&D stuff out, particularly when I was also got out, and which took two years of my life, the free downloads and the free use, which again they've bugged up by changing the terms and conditions, so it's no longer a free download, which again is a bloody disgrace. Do you know, that happened without a single curator in the museum even knowing it was happening? That what shows you how much curators have to do with it now. That was simply done behind everyone's backs. And I don't think the people who did it even realised what it was they were doing. It meant nothing to them – they're all the web team. Technocrats who have no idea what scholarship is. But it did cause quite a stir and I was very proud of it, it really was the greatest moment of my life when we got that thing out on the web. (36.16)

But of course, the specifications of what we wanted from the web delivery were nowhere near me. It was a year behind, everything went wrong - it was far more complicated than we had imagined. And half the basic requirements were never met. It's the rump of the system that actually got out there. And from that moment onwards, no one would pay any attention to me saying, 'Oh you've got to invest in the rest of it'. So it's supposed to have a search facility via the authority files and the thesauri.

RK: Which, if you're a scholar you kind of know how to do...

AG: Yes, you can sort of get around it if you're terribly cunning, but it should be upfront. I was very cross about that, but I just couldn't get them to move. And do you know, when that whole thing went live, a few people in the museum said, 'This is a landmark event in museum history'. And I thought it was. Do you know what the director said? He went to Amsterdam to give a lecture about it and him said, 'This is an absolutely wonderful system because when you see the thing on the screen, you can see these huge blow-ups which allow you to attribute Old Master drawings much better than you can in the original.'

Now, you may say, 'What are these blow-ups and what is he talking about?' Well, the answer is that he was talking about a pure accident. Because it was tied, in the beginning, with COMPASS, there was a facility, at the beginning, for those objects on COMPASS to have very high quality digital prints made. They were enormous files. And the firm that was doing it said, 'Well it is very easy to add in to the online database, a link which gives you a zoom facility for these five thousand objects.' So when we demonstrated it to the Director, we showed him that, which was the only thing he found any interest in at all and so for him, it was all about having a zoom facility. That zoom facility lasted a year only because no-one wanted these expensive print outs and so they just cut it.

But it would be dead easy to return it because, underlying all the images that can be seen online are the in-house ones, which are very large files. In P&D almost everything is scanned, not photographed. So if you wanted to zoom, no problem at all. And anyone with any intelligence would be doing that – it would be a marvellous thing to do.

RK: Sounds like there was a certain lack of will...

AG: A total lack of will. A total lack of ambition, and this complete divorce now, between anything curatorial and anything central. And this [the Collection Online database] is now central, not curatorial. Thank god the curators have access to write to MERLIN, and they're doing so very heavily. Every week we got updates and a regular publication schedule and again it essential for curators, because when your friend comes in and says 'I need some photographs to illustrate my article,' that's easy now with the digital cameras - you can photograph it yourself, load it up and it will be published next week, and they can download it. It's a marvellous, marvellous mechanism and it was one of the so many things we got right. If only we had invested further in it, which would not have been a big investment – it would have been peanuts compared to the amount of money the web team have wasted on stupid things, we would be way out in front. Still, as it is, the rest of the world is overtaking us – a lot of museums now have zoom as standard.

RK: There seems to be a disconnect, looking at the database and the records as a resource for the research that continues within the Museum – as part of that research collection, and any preconceived notion of what people on the web might want.

AG: In a sense, yes, there is a total disconnect because what went on the web was access to the curatorial database. (42.00)

It was never, 'This is what Joe Public wants,' and so far, that is how it has remained. With about 2.5 million records none of the central people can face the thought of trying to tinker around with it. But the next great battle, I can see, is going to be the dumbed down version of the curatorial database for Joe Public – more particularly, or probably the more likely, removal of all the curators, and the replacement of them with 'professional education learning department' types who think if you talk about the French Revolution you can't use words like 'Jacobin'.

I don't use the word research, really. From my perspective, when you are improving your catalogue record, it is not really research, it's basic curatorial – knowing what you own, writing accurate descriptions, accurate identification, accurate interpretation of what it is. (43.25)

So I see what goes on in the database as, in a sense, theory and value free. It's pure information. And if you know the difference between adequate and accurate, and inaccurate and a very good record. What I always quote are the National Gallery catalogues, which, over the generations have improved. If you ever want to see a beautiful test case, look at the Victorian National Gallery record, follow them through the different generations, and you can see what started as three lines on the Arnolfini Marriage is now fifteen pages. And this is still, in my view, pure scholarship. It is not modern, value-laden, 'What I feel about it, when I look in my heart,' which officiates so much modern art history. And why I think art history now is in a very bad state, and that's another problem for the museum world. The scholarly world out there that you used to be talking to is gone, and you've got a lot of people who call themselves professors and lecturers in art history who haven't a clue of what the object is, or how to catalogue it, and therefore haven't any interest in what you are doing. Therefore, when Directors say, 'this is your peer group, and this is who you are talking to,' you've got a problem. So in a way, your professional peer group in the museum world is being reduced to fellow curators in other museums, and that's a very narrow group. Although, having been pessimistic, there is also now a surprisingly wide group of members of the general public who actually know a hell of a lot about these things, and who you are talking to. For example, my wife had to take over the collection of ethnic costume from Eastern Europe, and she knew nothing about it at all, although she is a museum professional in the old-fashioned sense, in that she knew who to speak to and how to get on to them, and how to read the books. So she put up the best she could, using other experts, and bringing them in, and she said she's now got at least half a dozen, highly erudite emails coming in from people all over the world, people she's never heard of, saying things like, 'Actually, this is from the next village along,' and, 'It's not this, it's that,' and, 'This is why my mother wore this thing'. And it's great – you just load the whole lot straight in. That's what I call proper crowd-sourcing. And there is real crowd-sourcing in the museum world, which is getting proper information, if you look at porcelain for example, there are loads of porcelain collectors out there who know much more than anyone in the museum does. And even in the Print Room, there is always going to be someone out there who knows more about any objects in the Print collection than anyone in the department does, let's put something out there, and of a quality that they think is worthwhile improving. If it's absolute rubbish, no-one's going to bother, but if we put out something that isn't at all bad, but which can be improved, or people can see something has gone wrong, people will write in. It has worked rather well. Probably in P&D, I don't know what the current figures are but there used to be six to ten-emails a day coming in which were

worth having. And the nightmare email of, 'I've got one like it' you either ignore, or they don't come.

RK: *What were the advantages of using MAGUS (an existent system) that had been developed in other departments, instead of building a custom one?* (48.2)

AG: Very simply, there was no-one in any departments who knew a damn thing about computers, so if you had asked me to go and find a system and customise it, I wouldn't have had a clue what to do. So the fact that there was the system, and remember, this was before everyone became comfortable with computers; there wasn't any basic computing know-how in the curatorial team, so you had no choice in the matter. So it was very easy to use what we already had. In effect, what had been the biggest problem for many museums never was a problem for us.

RK: So you were able to sidestep...

AG: It wasn't even sidestepping, it was the only route forward. There was nothing to sidestep. You simply had your system which had been well-devised for departmental uses, albeit not your department, but you could build on to it. And remember that MAGUS was constructed to Museum requirements. (49:27) It wasn't an off-the-shelf programme. It wasn't a TMS. And it was absolutely written to what we wanted. (49:35)

There's something like 700 fields in there, there's a lot of fields that I insisted we cut out.

I insisted we cut out the collections management field, because I didn't want it to become a collections management system, I wanted it to be a collections description system. (49:58)

Sure you had a location, but bloody Conservation wanted to stick their records on too. That was a later afterthought, and that's what why I tacked it on. And conservation is a very powerful force. You know, there are more conservators than there are curators in the Museum. But that's what always happens when things become centralised – they become inward looking, with self-determining goals, which have nothing to do with the Museum itself. (50.41)

I mean, this is a cynical view, and I am exaggerating a little, but this is why I hated all these centrally managed things. They were there to serve the curators, in my view. But they think the curators are there to serve them. And that's what's happened now. Even in exhibitions now, you become a service to the people who do the exhibitions. Every exhibition now has become a bitter battle, between the curator, who is trying to get a sort of decent scholarly job done, and people who say, 'oh, this is an all singing, all dancing, this is how we should do it.' It creates a huge amount of work. Think of every timeline which is shoved into an exhibition there. Who is writing that? It is another thing for the poor bloody curator to do. And we now

have deputy Director who refuses to use the word curator. They are 'content providers'. We're viewing the end of the curator.

And one of the things that MacGregor has failed spectacularly to do in the Museum is to have galleries to do with the old Ethnographic collection. No South Seas, no South American material. (52.43)

It's a major problem. We have got one of the major South Seas collections in the world, after all, Captain Cook went there after the museum was founded...

And do you know why? Neil can't get his head round how you cope with colonialism and the West, and what is 'the story'. He always wants to tell a story which goes up to and informs the present. There is no past which is of any interest unless it informs the present. This is his big mantra. And that's fine, I've nothing against the past informing the present, that's what we are all trying to do. But when you say that the purpose of the museum is to inform the present, and those bits that you don't see as informing the present as irrelevant, then you reconstruct the museum to suit your own view of history, you're in trouble. And of course, since the Humboldt forum is supposed to have the old Dahlem ethnographic collections, he is not the man to talk to.


And that is why politicians love him – you take out that little thread of history that tells the story you want to write and leave the rest.

[ENDS]

Appendix C – Source Collections

History of the World Object	COMPASS Highlight	Talking Object	Link from BM to Google Cultural Institute	On Display in Museum	Link from BM to COL	Link to another museum source
Mummy of Homedjef	x		No	Yes	No	No
Olduvai stone chopping tool	x		No	No	No	No
Olduvai handaxe	x		No	No	No	No
Swimming reindeer	x	x	No	No	No	No
Clovis spear point	x		No	Yes	No	No
Bird-shaped pestle	x		No	No	No	No
Ain Sakiri lovers figurine	x	x	No	No	No	No
Egyptian clay model of cattle	x		No	Yes	No	No
Maya maize god statue	x		No	No	No	No
Jomon pot	x		No	Yes	No	No
King Den's sandal label	x		No	Yes	No	No
Standard of Ur	x		No	Yes	No	No
Indus Seal	x		No	Yes	No	No
Jade Axe	x		No	yes	No	No
Early Writing Tablet	x		No	yes	No	No
Flood Tablet	x		No	yes	No	No
Rhind Mathematical Papyrus	x		No	No	No	No
Minoan Bull Leaper	x	x	No	yes	No	No
Mold Gold Cape	x		No	Yes	No	No
Statue of Sennames II	x		No	yes	No	No
Lachish Reliefs	x		No	yes	No	No
Sphinx of Taharqa	x		No	yes	No	No
Chinese Zhou ritual vessel	x		No	yes	No	No
Paracas Textile	x		No	no	No	No
Gold coin of Croesus	x		No	yes	No	No
Oxus chariot model	x		No	yes	No	No
Parthenon sculpture: Centaur and Lapith	x		No	yes	No	No
Base Yarz Flagons	x		No	yes	No	No
Olmec stone mask	x		No	yes	No	No
Chinese bronze bell	x		No	yes	No	No
Coin with the head of Alexander	x		No	No	No	No
Pillar of Ashoka	x		No	yes	No	No
Rosetta stone	x		No	yes	No	No
Chinese Han lacquer cup	x		No	yes	No	No
Head of Augustus	x		No	yes	No	No
Warren cup	x		No	yes	No	No
North American otter pipe	x		No	yes	No	No
Ceremonial ballgame belt	x		No	yes	No	No
Administrative Scroll	x		No	no	No	No
Hoxne pepper pot	x		No	yes	No	No
Seated Buddha from Gandhara	x		No	yes	No	No
Gold coin of Kurnasagupta I	x		No	yes	No	No
Silver plate showing Shapur II	x		No	yes	No	No
Hinton St Mary Mosaic	x		No	yes	No	No
Arabian bronze hand	x		No	yes	No	No
Gold coin of Abd al-Malik	x		No	yes	No	No
Sutton Hoo helmet	x		No	yes	No	No
Moche warrior pot	x		No	yes	No	No
Korean roof tile	x		No	yes	No	No
Silk princess painting	x		No	no	No	No
Maya relief of royal blood-letting	x		No	yes	No	No
Harem wall painting fragments	x		No	yes	No	No
Lothair Crystal	x		No	yes	No	No
Statue of Tara	x		No	yes	No	No
Chinese Tang tomb figures	x		No	yes	No	No
Vale of York board	x		No	yes	No	No
Hedwig glass beaker	x		No	yes	No	No
Japanese bronze mirror	x		No	yes	No	No
Borobudur Buddha head	x		No	yes	No	No
Kilwa pot sherds	x		No	yes	No	No
Lewis chessmen	x	x	No	yes	No	No
Hebrew astrolabe	x		No	yes	No	No
Ife head	x	x	No	yes	No	No
David vases	x		No	yes	No	No
Taino ritual seat	x		No	yes	No	No
Holy Roman Reliquary	x		No	yes	No	No
Icon of the Triumph of Orthodoxy	x		No	yes	No	No
Shiva and Parvati sculpture	x		No	yes	No	No
Sculpture of Huastec goddess	x		No	yes	No	No
Hoshikamari's Island scene	x		No	yes	No	No
Tughra of Suleiman the Magnificent	x		No	no	No	No
Ming banknote	x		No	yes	No	No
Inca gold llama	x		No	no	No	No
Jade dragon cup	x		No	yes	No	No
Durer's Rhinoceros	x		No	no	No	No
The mechanical gallows	x	x	No	yes	No	No
Bentin plaque: the Olas with Europeans	x		No	yes	No	No
Double-headed serpent	x		No	yes	No	No
Kakemono elephants	x		No	yes	No	No
Pieces of eight	x		No	yes	No	No
Shiva religious parade standard	x		No	yes	No	No
Miniature of a Mughal prince	x		No	no	No	No
Shadow puppet of Bima	x		No	no	No	No
Mexican codex map	x		No	no	No	No
Reformation centenary broadsheet	x		No	no	No	No
Akan drum	x	x	No	yes	No	No
Hawaiian feather helmet	x		No	no	No	No
North American buckskin map	x		No	no	No	No
Australian bark shield	x		No	yes	No	No
Jade bi	x		No	yes	No	No
Ship's chronometer from HMS Beagle	x		No	yes	No	No
Early Victorian tea set	x		No	yes	No	No
Hokusai's The Great Wave	x	x	No	no	No	No
Sudanese slit drum	x		No	yes	No	No
Suffragette-defaced penny	x		No	yes	No	No
Russian revolutionary plate	x		No	yes	No	No
Hockney's In the Dull Village	x		No	no	No	No
Throne of Weapons	x	x	No	yes	No	No
Credit card	x		No	yes	No	No
Solar-powered lamps and charger	x		No	yes	No	No

Appendix D – MERLIN Records for snuff sample

	Object Name tobacco sample	PRN EAF31004
	Af,Cf.15	Created by adowning on 31 May 1985 Amended by bfox on 16 Jan 2017

Registration Number				
Reg Prefix	Af			
Reg Coll	Cf			
Reg Obj No	15			

Additional/Other Numbers				
Number	Af1882B18.15			
Comment	old CDMS no.			
Number	Af1979.01.1369			
Comment	also registered as, in error			
Number	Af1975.Q.356			
Comment	also registered as, in error			

Admin Reference Number				
Type	WEB (release to Collection Online)			
Type	DimCh (Dimensions Checked)			
Comment	2014			
	see COL entry			

Category	AF/ZAM (Zambia)			
-----------------	-----------------	--	--	--

Description	Cake made of Kaffir snuff, perhaps containing blood, albumen or tobacco.			
--------------------	--	--	--	--

Object Name	tobacco sample			
Comment	?			

Materials				
Material	tobacco leaf			
Material	blood			
Comment	?			

Dimensions	Type	Value	Units	Comment
	H (Height)	3.20	cm	
	W (Width)	19.50	cm	
	X (Depth)	6.40	cm	

Permanent Location	
Location	WCEC/B1/bay6/rack9b/unit2/3
	(WCEC, Basement 1, Collection Storage, Bay 6, Africa, Rack 9b, Unit 2, Shelf/Drawer 3)
Date	16 Jan 2017

Number of Items	1
------------------------	---

Collection Name	History (Automated post 05 March 2014)			
Location	Bragge Collection, rack10a/unit4/7			
Acquisition Name	01 Jun 2016			
Association	FU (Funded by)			
Name	Christy Funds			
Date				
Association	P (Purchased from)			
Name	Wareham, William (William Wareham)			
Association	PO (Previous owner/ex-collection)			
CS FI Name	Bragge, William (William Bragge)			
Acquisition Year	18 Mar 2016			
Year	1882			

Field Collection Place	
Association	F (Found/Acquired)
Place	South Africa

(Africa, South Africa)

Association	F (Found/Acquired)
Place	Zambia
	(Africa, Zambia)
Comment	?

Curator's Comments

Source	cspring
Date	06 Jan 2017
Text	For further information on South African snuff bottles, spoons and smoking pipes see: Giblin, J., & Spring, C., 2016, 'South Africa: the art of a nation'. London, Thames and Hudson, pp 126-140

General / Confidential Notes

{PLACE : South Africa/C}
{PLACE : Zambia/C (?)}

Asset Number: 152305001
View: Recto



Asset Number: 1567964001
View: Full: Front

Conservation and Scientific Research

Corresponding Conservation Record of this Object

This object is not currently linked to a corresponding conservation record

◆ [Find corresponding conservation record](#)

Source Documentation

C (Catalogue)
S (Slip)
O (Object)

Amendment history

User	Date
cspring	06 Jan 2017
mmroczek	30 Nov 2016
tszrajber	18 Aug 2016
ehunter	11 Aug 2016
tszrajber	25 Jul 2016
rkitcherside	01 Jun 2016
cvandenbos	08 Jul 2014
bfox	08 Jul 2014
jwhitscloud	16 Apr 2014
jsribblehill	13 Nov 2009
gfleming	07 Sep 2006
sburslem	14 May 2004
adowning	29 Nov 2001
adowning	06 Jun 1997
adowning	09 Feb 1995
hworthy	21 Feb 1991
hworthy	26 Mar 1990
adowning	31 May 1985

Status	Date	User	Event
S	08 Jul 2014	bfox	

S	08 Jul 2014	cvandenbos
S	01 Jun 2016	rkitcherside
S	11 Aug 2016	ehunter
S	16 Jan 2017	bfox

Y

Object Names

Name	tobacco sample
Note	?

No. of Objects 1

No. of Aspects 0

Calculated Copyright for Object

Status:	The copyright owner has NOT agreed to any uses
Severity:	5
Owner:	
Credit Line:	

Unique ID E_Af-Cf-15

Appendix E – Observation notes and transcripts

Observation of cataloguing activity in the British Museum Department of Prints and Drawings
March 23 2016

General Observations:

The observation took place in the Prints and Drawings Study Room, a space off Room 90 – the Prints and Drawings Public Gallery at the British Museum. The room houses the Prints and Drawings library, card catalogues and paper registers, work-desks for members of the public to view prints and drawings, desks for researchers from the department of Asia, and work terminals for four cataloguers, working at one large desk.

Each cataloguer has a computer terminal, on which they make the data entries.

Cataloguers on this floor are working on creating entries in Merlin for the Museum's collection of Italian portraits. The collection is arranged alphabetically by name of the sitter. All names with B and C have been completed, on the day of observation, the cataloguers were revisiting the A-names, since they had previously catalogued by volunteers, not professional staff.

Irregularities in the entries came up during the observation. This is not uncommon, and in order to mitigate the risk of errors, revisiting the work done by volunteers is done by professional staff at the Museum on an ongoing basis.

The observation took two hours, in that time I observed one cataloguer, who created new entries, and updated existing entries for three envelopes-worth of portraits.

Envelopes contain portraits of a particular sitter, anything from one to eleven different portraits of the same sitter were observed in the envelopes.

Some envelopes in the box had already been completed – for these items a PRN (unique identifier) number had been generated and pencilled onto the bottom-right corner of the back of the portrait.

Process

Cataloguer (D) working at his terminal, was half-way through an entry when observation began.

He removed an envelope from the box and examined the reverse of each portrait for a museum acquisition stamp, which showed date of acquisition into the museum and the object's unique acquisition number.

He also checked reverse for a PRN number, which, if present would mean the object already existed in the catalogue.

When no number was present, D created a new entry for the object in the electronic database.

To this record he added descriptive information, using some information copied over from an existing biographical authority file as well as generating new information.

In the first print examined, he discovered a date discrepancy in the data –

the image was from a book published before the recorded date of birth of the artist. This knowledge seems implicit, as I could not observe a birth date for the artist in the record which was being made.

D turned to an online encyclopaedia of Italian culture (www.treccatini.it) for corroboration, then corrected the entry in the biographical record.

He then added a PRN, replaced the portrait in the envelope, and added it to a pile of prints which were due to be sent to scanners who will upload an image to the database.

Next portrait (sitter: Agucchius)

Took envelope from box, checked database to see if catalogue entry for this particular creator or sitter already existed in order to clone the template.

Cloned template by cutting and pasting, however also needed to change certain details including:

Title

Checked associations in the biographical authority file

Copied and pasted full name “you have so many to do”

Changed description of portrait (“Vocabulary of garments can be somewhat vague, unless you are a dress historian”)

Re-measured dimensions (height and width)

Changed location reference

Added an Inscription in the appropriate field (name of author, page number)

Added a Comment (made reference to a master record)

Rechecked all fields, clicked “seen save”

Added PRN number in pencil on reverse bottom-right hand corner

Corrected spelling of the name of the sitter on the envelope, so it corresponded with the information in the database.

General Observations:

When a record needed to be created from scratch, and data was missing from the object, a degree of implicit knowledge was required from the cataloguer. This included tacit knowledge such as knowing how to ascribe a general date to the production methods such as etching, print or hand coloured lithograph.

As well as making use of expert knowledge of the cataloguer, during the observation the cataloguer working through the boxes of Italian prints made use of printed and digital reference materials. The reference works used during the observation were books in the on-site library, online encyclopaedias of specialist knowledge, Google and other pre-existing records in the database.

When the database did not provide a match for an entry, despite the cataloguer’s certainty that it existed, several searches were done using different spellings, different addresses, and different names of possible sitters. Although we confirmed that the other entry did exist, the database did not create the corresponding linkages. Cataloguer made a note to refer it back to the line-manager.

A magnifying glass was used to identify the technique (etching, lithograph, ascertaining whether had the print had been hand coloured). Again, this seem possible to do because of

the implicit knowledge of the cataloguer, and less likely to be the kind of task that could be carried out by volunteers.

Transcription of Observation recording

DB: This is another M - from another book. I've catalogued these before, but it comes from a book of a series of portraits of Paduan academics. This print has already been catalogued, so I don't need to bother with that.

RK: So in that case, you don't check it against the record, you can assume that it has been correctly catalogued? 00:31

DB: I can assume that it's been correctly catalogued because it had that number generated. I think that was done by the volunteer who was here in the summer. 00:37

So, I'll just tick that so that I know it has been done. But I will just check the name and the date, to see if I can give them a date. Ah, so that's been catalogued but the biographical authority is very inadequate. I mean, this was created in 2002, so since then we have added a lot of fields which you have to create entries for back then (01:22)

I don't know what the database looked like in 2002, but this is very rudimentary. So, let's start straight away by saying how it has been used.

So, the name is an associated name - there is a sitter, that's ok, but the rest hasn't been filled in. So, it's an individual...

RK: So, you're updating the biographical record here, not this particular object's record, but this will then feed in to whichever the related record is?

DB: Precisely. So, when someone sees this from the user interface, and they hover over the name it will come up with more information, so there is a benefit to the user. (02:11)

So, I know they are an academic, I can put that in right away (enters name of sitter), and there doesn't seem to be any other case of them in the catalogue. A lot of these sitters are very obscure, 17th century academics...

I'll just try, and often we even Google them to find out more. Oh, gosh, this is no good. What does the print say, let's have a look? Professor of Logic, presumably. Ok, Padua, but because I can't really leave this person without detail, but I can put "Professor of Logic in University of Padua" that's ok. I mean, you have to enter something in the biography (03:52)

It's not much, but it's something. But they don't have any dates, and I don't think you can save this without any dates.

Oh, wait, you can. That's surprising, I didn't know that. (04:06)

But one really should give dates. Let's try another trick. So that's an Italian encyclopaedia, and Google hasn't worked out either so there's a German database I consult. It's a database which kind of aggregates results from individual databases throughout Germany and which is quite good for early modern portraits (04:45)

So, I'll just type in this guy's name and see if there is a portrait of him. Yes, there is! (04:53)

Ok so there are three impressions from different collections. But there is no information about his dates of birth, I'll just check the other records... Ok, born 1640, well, that's probably the best I can get. I'm going to take that on trust - it sounds reasonable, and he's definitely from a series published in 1680, so he'd be 40 years old in that, which sounds about right, so I'm going to accept that someone hasn't just made this up. And then I can put

here "active between these dates" since I don't know when he died. But this record is already much more enhanced, even with very little doing to it. (06:18)

This might be of use to somebody, I don't know.

So, I'll just put the dates on there (writes on the back of the print) 1640-1680 active. I'm very embarrassed about my handwriting because some of the previous wrappers had this beautiful early 20th century beautiful script. I feel very ashamed.

Ok, so moving on. These are all portraits of the same guy, and have they been done? Yes, they've been done. (07:06)

There doesn't seem to be any logic though - it's not as if half the box has been done and half not, so you just have to be systematic and check everything. These have all been done. (07:40)

It's a shame, these are my kind of prints, so I'm sad they've been catalogued. But there is always the promise of the next envelope.

Ok, next person. I know some of these have been done, ok, (leaves through several folders). Normally, this is not the case, Normally, I'm taking out the prints of 19th century portfolios and none of them have been done, so this quite unusual that someone has half done them.

Ok. (09:00) The rest of the box has been done. Some of these do look quite difficult, in a way I'm relieved...

See normally I wouldn't write on the back of the print, just on the mount, one doesn't want to damage the object. I don't recognise... that's not my tick. But yes, ok, I'll just double check. (10:00)

Ok, these must all have been done. Ok, this hasn't been ticked, this sounds promising. (10:31) Oh, no, even this has been done.

Ok that one's not been done. Ok, alright. (11:47)

So, I'll see first if she's been put on here (enters name into list of names authority file). Ok, we do have an entry, here she is. 12:17

Ok, contessa, this all looks good, dates look right, married to field looks correct. See, a few people have edited this to improve it, so my guess is that when this guy created the record, it has been augmented by these people subsequently. So, the chances are that another impression of this print has already been catalogued. So, I'll see if it has (12:57) But I'll just write on the back of the mount here, the date; 1836.

Now, usage. So, there are 7 prints here, not too many. I'll just go through them and see, so surprisingly there are seven portraits of this lady and not one has been created, so I'll have to make one from scratch. (13:33)

So "Create a New Record", then click catalogue, then this is a record I've already done, but I just want to copy and paste this location, so I don't make any mistakes spelling it out. It's royal, and ALB is the name. So now I begin by going about cataloguing this. so, the registration number first, that's 1943, and July, and the number is 15114:40 And then the title of the work: Isabella... and its object title. See, there are two types of titles in the catalogue. One is the object title, and then if it's from a series then you give the title of the series (15:13)

So, title is Portrait of, and again I'll copy and paste...

See, I do hope around quite a bit between the fields.

See this is interesting. This has been, on the biographical authority, catalogued. And taking in to account that it's a double-barrelled surname, they've put the part beginning with a T

first, in which case, in this series, it should come under T, it should not be in the box of As. So, I may move it to the Ts. I'll catalogue it anyway, now that I'm here, and I will do the Ts eventually, so I'll take it out of the As because it should be with the Ts. And this means that I will have to change the location, since it will be in the box of Ts.

So back to this description. So, it's half-length, facing front, so that's very standardised (17:14)

Wearing... I mean, who knows exactly what that is that she is wearing, but to me it looks like a gown over a dress, so I will say 'wearing gown over dress' and, ummm, with a hair band (looks at print). I'm just trying to identify what the technique is. At first it looked to me like an engraving, but it's actually an etching.

See, you can get caught out, it's always good to be safe (19:08)

And now these are all controlled fields.

So, the height, I'll just measure it again...see here, the plate mark has been trimmed within that, so the width includes the plate mark but not the height. So, I'll measure. (enters dimensions into controlled fields.) And I'll specify, in case somebody thought the whole thing was trimmed. So, ok, that's done, acquisition we don't add, so the producers are named on here, and it's all controlled. Print made by, we only use certain of these descriptors. So, when I first started it occurred to me that 'Oh, some of the prints are engraved, so put 'engraved' it's more specific than 'print made by' but I was told that other artefacts, such as metals can be engraved too, so we never use that, we only ever use 'print made' and 'print made by'. (21:18)

So, the name is 'Paradisi', and we know the first names, so I'll just check the authority file... and yes, somebody has already made a record, so that's really good, I can just paste that in. (21:39)

And the name of that person is... Buffato, G. Ah, ok...So maybe not...

RK: So, in this case there was a record of the print maker but not...

DB: Here, this name refers to the person who made the intermediary drawing, that this is based on, so it's a common thing we recognise. ID stands for 'intermediary draftsman'

RK: So now you'll create a record for the draftsman?

DB: If there isn't one, and it's unlikely that there is, although I'm just thinking if it is spelled in a different way or something... What I'm going to do is, assuming that there isn't a record, what we do is we have reference books, like dictionaries of artists, and so I'll go to that, and look up and see if this G Bufatto is in it. So, I can show you where I go to look up (23:34)

So there are lots of reference books here, sometimes reference books for prints, or these German books, published by Sauer, and they go through the alphabet by surname, and they've only printed up to F, so we still use the old version, but it was B, so I'll look here, for Bufatto... ok, so if its anywhere it will be in this one, B...u...f... assuming the spelling is right on the print there is only one f... it might be two fs... so it doesn't look like he's in here, which is not surprising, he's a minor draftsman, and this is by no means comprehensive, this dictionary. So, what I'm going to do is, I might just try the internet, otherwise I'll just have to use what the print tells us to create the record. (26:03)

So, I'll just try a few different spellings to see if anything comes up, it's important to check, because if you do create a duplicate record, it can be a bit of a headache, (26:34)

No, it doesn't look like he or she are on here at all. So of course, you could spend hours and hours on this, but you don't have that time, so there is a limit to how much time you can spend trying to find a person (27:28)

Ok, so I'm going to give in and create an authority file, so create a new record. So, I will just have to go literally off what is on the print (27:44)

I don't think we use full-stops because it interferes with the retrieval, so that will just be G,

RK: So, you put in the name that's displayed

DB: Yes, so the display name is just as you would see it or write it, and when you're searching for a name this is what you would type, although you might put in the surname first, and initial after.

So, in terms of dates when this person was alive

RK: Because you have to put in something, you can't leave the field blank

DB: Yes, and it's not necessary to leave it empty because even if it's very rudimentary, and I say "they were alive in the 18th century" it's better than nothing. So, I'm just going to see, ok, this happens often, you have to have loads of windows open... (29:05)

I'll need a new one to search for this person...

So the engraver was alive then, so the person who produced the drawing for the engraver must have been alive around the same time but I don't know when in the 19th century, so I'm going to say "Nineteenth" and you have to enter these in a certain way as well, so you can't write out the numbers, and you used to be able to say '1800 after', but you can't do that now. So, it's 19th century, and I'll be vague, because I have to be. (30:06)

So "late, active" let's say. Individual, don't know the gender, seem to be Italian, and then, profession we know, they are a draftsman, and for the biography we can just say, cause in the biographical field you have to put occupation first, so, "draftsman: produced intermediary drawing for a print of this person" and since the sitter is on the database, I can refer to that. And then "etched by Luigi Paradisi" and he's also on the database already. Ok, yep, that's fine. And usage, there's no copyright on it, department is Prints and Drawings. (32:20)

So that all looks fine. And now he exists!

Ok, so now I have both my makers in there. And the date it was made, I'm going to use the dates here, when the engraver was active. Sometimes the dates are with the prints, but often not. There we are. Then the inscription - they used to not transcribe the details of the makers on the database, but they realised that often things were spelled wrong - it's actually very important to transcribe exactly what is there, rather than using the controlled fields to give the makers and so on. It's a kind of safety net (33:57)

in case there is a different L. Paradisi.

Which there probably isn't...

So "Lettered below image" and this is a very good controlled vocabulary. And production details - this is very important - the details of who made this is what people will be interested in a lot of the time, so I'm just going to transcribe it exactly. There we are. (35:07)

There's nothing to add to the comments field, so that was not straightforward in the sense that I had to create one of the authority files, but it wasn't a book illustration or anything quite so complicated.

RK: So, then you add the PPA number on the bottom right on the back.

DB: Yes, and I'm just going to quickly go through the whole thing again and see that it's ok. (36:03)

So that's all fine, so let's move on.

RK: So, for that one, which will be re-categorised under a different name...

DB: Yes, I'll keep that out, because at some point, as I work through the alphabet, in a few months' time, I will eventually get to the Ts and then I will put the envelope in the right box. So, I also need to what's written on the envelope... I have a pile of mislabelled envelopes.

RK: You won't put her into the T box immediately?

DB: Yes, because there isn't a T box so to speak yet. There will be a big 19th century leather bound portfolio, but I might as well leave her here, because that portfolio will be in an offsite storage place, and it's going to come back anyway. So, I'll just leave it here. Ok, none of these have been done. But I'm not too keen on the later stuff. But I'll just have to start working my way through this box...

Most of the sitters in this box seem to have biographies, so I think someone, once, went through all the As in the Italians in 2002 but not the others. Again, this is a bit too vague, there are things that could be added, so I always check.... Association... that's not very informative...and there has been usage as well.

RK: In that particular field where it asks about the admin reference number and it says "web release to the collection online" does that mean that that image has already been released?

DB: Yes, it has been. And you can see the ones I have already done, it's automatic, it will be here in the catalogue already, and will go online whenever the database is updated, which I think is once a week (40:54)

You do end up with quite a broad general knowledge, doing this job, because you come across all of these people. I'll start with this one. I don't like cataloguing sheet music, it just adds to the complications (41:54)

So, I'll create a new record and straight away enter the location, so I don't have to worry about it, and then here... (42:28)

There is other stuff going on, and it's not just a portrait. With music sheets I say "Music sheet cover for "Fair Ellen" With a portrait of this person" and then I would start to describe the portrait. So "Full length (44:11)

She's facing forward, gosh, what is she wearing?

I don't know how to describe this... it's sort of like a tunic of some sorts... I'll just have to go with that (45:04) And foliage... I think that's an adequate description... [long silence as DB looks at image, clicks through various fields in the record and tries to find linked files]

Ok, so this is print, but it is also a music cover, and I'll just check, since this is all controlled so I'll just make sure, I think yes, music sheet cover, this is an actual category so that's fine So, I could give it this as a title, and it's an opera (48:07)

So, it always a question of what to measure, I think that is just where the sheet has been folded, but I think in this case I will just measure the whole sheet for the dimensions 48:55 And I'll just specify at the top that what I have measured is the actual sheet.

So, the name of the etcher isn't stated, all we have this this, W. Strange, so I can put that in as the publisher (50:30)

RK: So that code there refers to 'published by'

DB: Yes, and if its stated on the print where it is published, which it is here, it's London, you can add that too using a short code. (51:04)

RK: So, you will add this as publication information, rather than association information?

DB: Yes, publishers are classed as producers, so the field is producer, not associated person. This person as their own biographical authority as well, William Strange (53:11) but he also appeared in another authority for this musical bouquet. But it's just a question of which is more appropriate. But I think this address is more likely (53:49)

RK: So really the information in this database is constantly being augmented and added to.

DB: And corrected, absolutely, it's like a living thing (54:02)

And we're very much encouraged not to just copy what is there but improve it if we can. And if you use a book, you specify which one, so people can find it.

Ok, school - this applies to everyone who was involved in the production, it's not just the engraver (54:56) but actually the nationality of the publisher, and in this case, it is British School.

So, in terms of a date for this... I can use this reference as a guide... 1840 to let's say, ummm, so the get out of jail card is 'circa' because there you just make an approximation.

In terms of a date I'm going to say that the series began in the 1640s, so I'll say 1640 to 1860 because this guy appears to be flourishing between 1799 and 1852. (56:39)

So I'll take it just beyond that for a rough date. Actually, also what I should do is say, because there is letterpress on this, and not on the recto with the portraits, so I should include that as a technique. (57:27)

So, in terms of transcribing it I'm not necessarily going down the sheet and saying "this, followed by this". I'm trying to do it in a way that makes it as clear as possible, so I'll say, 'below the image with the title' and then I can copy out all the text that is there, and because there is a lot of text I'll just break up the sentences in the transcription and the description. (59:42)

And then I always add production detail into the descriptive text because its extremely important, I would argue. (1:01:05)

And I think that's everything. That's why I'm not too keen on these, they're very detailed (1:02:24)

I used to get worried if I closed a window that it would disappear, but it does actually save.

RK: As you're filling in the records, why is it that some of the tabs become coloured orange and some remain yellow? I'll point it out when we see it again.

DB: next one, more music sheets by the looks of things. And I'm trying to think of ways I can speed it up, there is a good chance that the format is standardized, so if somebody has already done a music sheet then I can clone the template. Although I haven't worked out yet whether it is actually more efficient to do that or whether there is actually not much different because obviously if you're cloning a record there's a risk that you miss something, or you retain something that doesn't apply from the old record you've created a problem. (1:04:58) So, I'm not sure if it's better to do that. I can never quite decide. I'll see if one has been done. Who are these people? Lewis and Johnson. See, this is when the address can be useful, when you have a lot of publishers with the same name. So many

prints have been catalogued by now, we're something like over 440 thousand, so it's quite unlikely that nobody has ever catalogued something by these producers. So, I'm always a bit wary of creating a whole new record.

RK: And if you were to create a whole new record, but all the information in it were identical to an already existing one, would it automatically connect them?

DB: No, it won't, there will be two records, (1:07:24)

What you have to do in that case, to get rid of the duplicate record is a manual job. And if anything has been attached to it, so if there is anything that's been pasted, you have to reattach that to the record you want to keep, so that the duplicate record has no usage, so this has to be totally blank. But you can't delete a record that has anything in the usage field, because it has records attached to it (1:07:58)

Ok, this really doesn't seem to exist, so I will create a record for it. So because this is a firm, you just enter it as it appears, so the display name and the authors are identical. So, I still want to create a file for the publishers, but this is a good clue - if the lithographic printers are on the database, that would help to date the print, because to me this just looks like mid-19th century (1:09:49)

So, I'm going to look for them first, I mean they were quiet, I'd be very surprised if these people were not on here. It's always hard working out what is said. And they're active in the 1840s. I'm just going to see what has been created, and I'm just going to add to what is already there, since we have an address here, so I can add an address to the authority file. (1:11:38)

Anything else? No. But that gives us a rough date for this. So, let's say that these people were also active circa 1840s.

RK: And this is all information that is going into the biographical authority file, before you actually start the entry in the catalogue for this particular print? (1:12:12)

DB: Yes. So, Lewis and Johnson. It's a group, lithographic partners are always called a group, unless it's people who are actually named. But if it was a company it wouldn't have names, so that's how to distinguish between groups and companies.

What worries me about this, sometimes you think you've done everything to try and find the people, but if you go to the menu, I can search for biographies I've created, and I just want to check that I haven't made entries for them before and misspelled them. This is odd, I'll see if it works when I create the record.

So, I'm just going through to see if I've created this before, and I know I just made this record, but it's not showing up... no it's not. So, ok I don't know why that's not coming up while I search for it. (1:20:28)

It's weird, because if that didn't exist, it shouldn't let me move to the next field. I don't understand why that's not retrieving that. I might make a note of that, and hopefully it won't affect the functioning of the records, because it does exist. I'll have to ask Tanya. It's not that the '&' is a problem, I've used that before...

So, date, 1840s, and now I'll start adding stuff....

[ENDS]

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